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1. Annual Report of the Division of Laboratories and Research, New York State Department of Health, 1956.—160 pp., 1956. [Received Aug. 1957.]

Elizabeth L. Hazen, G. N. Little, & Verna Mordaunt (pp. 95–97) report that *Trichophyton violaceum* was isolated 198 times from one or more scalp specimens from 67 children at a residential State institution, while from the same group *Microsporum audouini* and *M. canis* were isolated 44 and 36 times, respectively. Both *T. violaceum* and *M. audouini* were recovered from the same specimens in 12 children, and *T. violaceum* and *M. canis* in 11, while all 3 species were present in specimens from a further 6.

In 1 male patient *T. rubrum* was isolated from the interdigital spaces, and *Epidermophyton floccosum* from the sides and soles of the feet. *T. verrucosum* was obtained from 4 children and 6 adults residing in rural areas where cattle are known to be infected by this species. *T. mentagrophytes* was recovered from scrapings from lesions on 3 experimental monkeys. *Cryptococcus neoformans* was isolated from cerebro-spinal fluid in 4 patients, and bone marrow in 2.

Isolates of *Streptomyces*, very probably 1 species, were obtained from an infected submaxillary gland in 1 male patient, and from a lesion in the abdominal wall of another. Mice inoculated intraperitoneally did not die but developed abscesses at the site of infection: at autopsy a few abscesses were noted in the abdominal cavity, chiefly on the surface of the diaphragm, and there were adhesions throughout the cavity. Biopsy tissue sections from the patients were histologically consistent with actinomycosis.

Work on the potentiation of experimental moniliasis (*Candida albicans*) in rabbits by oral administration of tetracycline hydrochloride has encountered a setback: a yeast-like *Trichosporon* sp. normally present in the intestine multiplies very rapidly following suppression of the bacterial flora by the antibiotic, and prevents the establishment of moniliasis even by massive oral inoculation (2 ml. packed cells).

Elizabeth L. Hazen and C. H. Greene (pp. 97–100) report that 713 blood specimens from 545 patients were examined by quantitative complement fixation tests for histoplasmosis and blastomycosis, which are described in some detail. About 18% of the sera showed high reactivity (titre > 8). With 131 sera from 59 patients maximum titres of 8–300 occurred with *Histoplasma* antigens: 7 of these cases had been diagnosed pathologically as blastomycosis. Sera of low reactivity (titre < 7) were obtained from 52 patients. In 43 of these yielding blood specimens positive to one or both of the *Histoplasma* antigens, there was no clinical illness, but the histories included mention of either positive reactions to histoplasmin skin tests, or X-ray evidence of pulmonary lesions, or both.

2. González Ochoa (A.). **Clasificación clínica de las micosis.** [Clinical classification of mycoses.]—*Rev. Inst. Salubr. Enferm. trop., Méx.*, **16**, 3, pp. 1–8, 1956. [English summary.]

In this paper from the Instituto de Salubridad y Enfermedades Tropicales, Mexico, mycoses are classified as (1) those exclusively affecting tegumentary tissues (e.g. dermatophytes, etc.), (2) those primarily affecting tegumentary tissues (e.g. chromoblastomycosis, sporotrichosis, etc.), and (3) those secondarily affecting tegumentary tissues (e.g. actinomycoses, histoplasmosis, coccidioidomycosis, etc.); groups within which the mycoses show certain similarities regarding transmission, incidence, and possibility of successful treatment.

3. Saëz (H. E.). **Vie saprophytique, parasitisme, et mycoses de l'Homme.** [Saprophytism, parasitism, and human mycoses.]—*Rev. Mycol., Paris*, **22**, 2, pp. 217–228, 1957. [32 refs.]

The circumstances under which a saprophytic fungus can become pathogenic to man are discussed under the following main headings: the conditions of saprophytic life in man; the fungus in the parasitic state; conditions in which parasitism is possible; dimorphism; specificity; pathogenic power; and susceptibility of the host.

4. La Touche (C. J.). **The epidemiology of some fungus diseases with especial reference to ringworm.**—*Med. Pr.*, **237**, 19, pp. 412–418, 2 graphs, 1957. [52 refs.]

The author briefly surveys, with numerous references to the literature, the epidemiological features of some of the commoner mycoses occurring in Great Britain.

5. Vanbreuseghem (R.). **Tinea capitis and African histoplasmosis in the Belgian Congo.**—*Trans. N.Y. Acad. Sci.*, Ser. II, **19**, 7, pp. 622–634, 3 fig., 1957.

A useful survey presenting information already largely covered by this *Review*.

6. Gammarrota (V.). **I bronchi nelle infezioni micotiche.** [The bronchi in mycotic infections.]—*Ann. Ist. Forlanini*, **16**, 3, pp. 341–360, 9 fig., 1956. [31 refs.]

The author gives an account, based on the literature, of the causes, clinical picture, and treatment of mycotic infections of the bronchi, including actinomycosis (*Actinomyces* spp.), North American blastomycosis (*Blastomyces dermatitidis*), coccidioidomycosis (*Coccidioides immitis*), cryptococcosis (*Cryptococcus neoformans*), histoplasmosis (*Histoplasma capsulatum*), sporotrichosis (*Sporotrichum schencki*), aspergillosis (*Aspergillus* spp.), and moniliasis (*Candida albicans*).

7. Mariat (F.). **Sur le diagnostic mycologique des principales mycoses du système nerveux central.** [On the mycological diagnosis of the principal mycoses of the central nervous system.]—*Arch. Biol. med.*, **33**, 3, pp. P. et B. 901 (B. 281)—P. et B. 921 (B. 301), 7 fig., 1957. [English, German, and Spanish summaries. 132 refs.]

Descriptions are given of the mycological diagnosis of the chief fungal diseases of the central nervous system, including cryptococcosis (*Cryptococcus neoformans*), mucormycoses (*Mucor* [*Absidia*] *corymbifera, M. italica, Rhizomucor parasiticus, Rhizopus equinus* var. *arnamensis, A. ramosa, R. arrhizus*, and *R. oryzae*), cladosporiosis (*Cladosporium trichoides*), and nocardiosis (*Nocardia asteroides*).

8. Kaplan (W.) & Georg (Lucille K.). **A device to aid in the development of mycotic and other skin infections in laboratory animals.**—*Mycologia*, **49**, 4, pp. 604–605, 1 fig., 1957.

A collar found useful at the Communicable Disease Center, Atlanta, Georgia, for preventing laboratory animals from licking or chewing surface inoculations or

lesions consists of a disk of sheet rubber about 4½ in. diam. with a central round opening about 1 in. diam. To determine whether the collar is wide enough, the animal's head should be turned as far as possible to one side, to see that the edge of the collar extends beyond the tip of the mouth. It should not be possible for the animal to insert its foot in the opening. Such collars have been kept in place for 2 weeks without interference with normal growth or weight increase.

9. Reichenbach-Klinke (H. H.). **Maulsperre bei Fischen durch den Pilz Ichthyosporidium hoferi (Plehn et Mulsow) Petit.** [Lockjaw in Fish caused by the fungus *Ichthyosporidium hoferi* (Plehn & Mulsow) Petit.]—*G. microbiol.*, **1**, 2, pp. 112–114, 3 fig., 1955. [English and Italian summaries. Received July 1957.]

From the Technical College, Brunswick, Germany, the author reports the occurrence in tropical freshwater fish in aquaria, e.g. the south-east Asian barbel (*Puntius tetrazona*), of lockjaw caused by *I. hoferi*. The fungus, which usually attacks the liver and other internal organs, produced dense masses of hyphae up to 800 μ diam. on the edges and floor of the mouth and on the gums.

10. Suter (L. C.). **In vitro development of resistance of Actinomyces bovis to antibiotics.**—*Antibiot. & Chemother.*, **7**, 6, pp. 285–288, 1 graph, 1957. [Spanish summary, p. 339.]

At the Veterans Administration Medical Teaching Group Hospital, Memphis, Tennessee, 3 strains of *Actinomyces bovis* [*A. israeli*] failed to develop resistance to erythromycin, carbomycin, or penicillin over a 16-week period. There was, however, a slow and moderate accumulation of resistance to oxytetracycline [terramycin], tetracycline, and chloramphenicol, and (to a lesser extent) streptomycin.

11. Johnson (H. S.), Pulaski (E. J.), & Thompson (C. W.). **Actinomycosis of mandible.**—*U.S. Forces med. J.*, **8**, 8, pp. 1214–1221, 5 fig., 1957.

A case of infection of the mandible by *Actinomyces bovis* [*A. israeli*] in a 22-year-old soldier is reported from the Tripler U.S. Army Hospital, San Francisco, California. A cure was effected by drainage, curettage, and a 14-day course of oral administration of tetracycline (500 mg. 4 times daily).

12. González Ochoa (A.) & De los Ángeles Sandoval (M.). **Revisión determinativa de algunas especies de actinomicetes patógenos descritas como diferentes.** [A revision of some pathogenic actinomycete species described as being distinct.]—*Rev. Inst. Salubr. Enferm. trop., Méx.*, **16**, 3, pp. 17–25, 1956.

From cultural studies at the Instituto de Salubridad y Enfermedades Tropicales, Mexico, the results of which are summarized, the authors conclude that *Nocardia leishmani*, *N. convoluta*, and *N. phenotolerans* are synonymous with *N. asteroides* and *N. transvalensis*, and *N. pretoriana* with *N. brasiliensis*. The last named is stated to be the most important cause of actinomycotic mycetoma in Mexico.

13. Johnston (K. G.). **Systemic nocardiosis in the Dog.**—*J. Path. Bact.*, **71**, pp. 7–14, 1956. [*V.B.*, **26**, No. 2831.]

Two cases (1 pulmonary, 1 disseminated) are described. The species of *Nocardia* involved was not determined but details are given of the 2 isolates.

14. Chodnik (K. S.). **Mycotic dermatitis of Cattle in British West Africa.**—*J. comp. Path.*, **66**, 3, pp. 179–186, 1956. [*V.B.*, **27**, No. 1400.]

A description is given of a chronic exudative dermatitis resembling the condition reported from other parts of Africa as cutaneous streptothricosis. The disease was reproduced in 10 cattle by an actinomycete (of the *Streptomyces albus* group) isolated from 46 cases.

15. Rossiter (L. W.). **Experiments in the treatment of lumpy wool.**—*J.S. Afr. vet. med. Ass.*, **27**, pp. 179–182, 1956.

From comparative experiments (involving 88 sheep) with anabac, copper sulphate, and dubble benex it is concluded that light to medium infection of sheep with lumpy wool (*Actinomyces* [*Dermatophilus*] *dermatonomus*) can be effectively treated by 1 dipping in a 1/200 solution of anabac (a proprietary quaternary compound) with hand-soaking of the lesions but that for heavy infection 2 or more treatments at intervals of 3 weeks may be necessary.

16. Roberts (D. I.). **Some features of the mycotic dermatitis organism.**—*Aust. vet. J.*, **33**, 6, pp. 141–143, 1957.

A branching, filamentous organism isolated at the Animal Health and Nutrition Laboratory, Dept of Agriculture, Perth, Western Australia, from cases of mycotic dermatitis in sheep appears to be either identical with or closely related to *Actinomyces* [*Dermatophilus*] *dermatonomus* [**1**, Nos. 263, 468] and Thompson's strawberry foot-rot organism (*J. Path. Bact.*, **68**, p. 445, 1954). Some of the cultural characters herein described were not mentioned in the previous papers cited. The most important is the occurrence under different environmental conditions of 2 distinct growth forms, a dry, filamentous and a moist, coccoid, with divergent biochemical characters.

17. **Journées de mycologie médicale, Paris, 14–15 décembre, 1956.** [Days of medical mycology, Paris, 14–15 December, 1956.]—*Pr. méd.*, **65**, 22, pp. 501–503, 1957.

Under the auspices of the Institut Pasteur and the newly formed Société française de Mycologie médicale, a 2-day meeting on medical mycology was held at the Institut Pasteur on 14–15 Dec. 1956, at which papers [many of which are published in full elsewhere] were read.

Mention may be made of the following. E. Rivalier, dealing with the dermatophytes found in Paris and its vicinity, stated that ringworm due to *Microsporum audouini* is now rare among school children, though that due to *M. canis* is on the increase. The total number of trichophytic infections is diminishing, while the flora has notably changed. The autochthonous species (e.g. *Trichophyton tonsurans*) have become uncommon, and in most cases have given place to *T. violaceum*, which has been brought in from North Africa. The incidence of favus (*T. schoenleini*) has remained constant for many years.

J. Coudert spoke of the frequency of dermatomycoses in the Lyons region. Observations on 118 patients during 1 year showed that in school children ringworm contagion between humans and between animals and humans accounted for 42% and 20% of the cases, respectively. There was a 32·5% increase in the incidence of infantile and adult favus, due to immigration from North Africa.

J. Ranque & P. Temine stated that a study of over 1,800 cases of dermatomycosis found among over 25,000 persons examined in the Marseilles area demonstrated the extreme intractability of ringworm due to *T. violaceum*; the frequency of subclinical forms, especially among adults, who may act as carriers; the delayed incubation period, i.e. 1 month for *T. schoenleini*, 4–6 weeks for *T. violaceum*; and the uselessness of Wood's light for the detection of favus.

C. Huriez, J. Biguet, G. Cochet, S. Mullet, & M. Doby-Dubois reported that in northern France the clinical forms of infantile ringworm observed during the past 10 years included 333 cases (52·3%) due to *Microsporum*; favus 234 cases (36·7%); and *Trichophyton* 70 cases (11%). Two species of *M.* were isolated (*M. canis* (71%), *M. audouini*); from the favus cases, *T. schoenleini* was isolated; and from those due to *T.*, *T. tonsurans* and *T. sabouraudi*. In a few instances, *T. violaceum* (7 strains) and *T.* [*M.*] *ferrugineum* (10 strains) were obtained.

Dealing with infantile ringworm in the Cameroons, Mlle G. Cochet & M. Doby-Dubois stated that (among native children) its chief clinical characteristic is the predominance of *Trichophyton* (80%) over *Microsporum* (20%).

B. Duperrat & R. Netter noted 2 new cases of rhinosporidiosis (*Rhinosporidium seeberi*) in southern Vietnam.

T. Alajouanine & A. Grasset stated that in 2 cases of torulosis of the CNS diagnosis was effected during the lifetime of the patient by the isolation of *Cryptococcus neoformans*.

R. Garcin, R. Martin, G. Manigand, S. Godlewski, & B. Sureau described the isolation of *Cladosporium trichoides* from cerebral abscesses in a fatal infection in a 30-year-old woman.

18. Cavalieri (R.), D'Arca (S.), & D'Arca Simonetti (A.). **Incidenza epidemiologica dei tricofiti nella provincia di Roma. Nota I.** D'Arca (S.). **Incidenza epidemiologica dei tricofiti nella provincia di Roma. Nota II. Nota III.** [The epidemiological incidence of dermatophytes in the Province of Rome. Notes I, II, III.]—*Nuovi Ann. Igiene Microbiol.*, **7**, 4, pp. 245–254; 6, pp. 465–468, 469–482, 1956. [English summaries.]

In the 1st paper the authors give the results of a survey of the dermatophytes prevalent in and near Rome during 1953–4, on the basis of 75 patients examined at the Istituto Dermopatico dell'Immacolata, Rome. Of the cases examined, 30 were culturally positive. A comparison of the prevalence of the species recorded with the data obtained by Pecori in 1911–12 and by Tarantelli in 1930, showed that the relative frequency of *Trichophyton violaceum* has remained almost unchanged during the past 40 years, though *T. cerebriforme* [*T. flavum*] and *T. paracrateriforme* [*T. tonsurans*] have become less prevalent. Other once classical species have now disappeared, and their places have been taken by *Microsporum* spp., particularly *M. lanosum* [*M. canis*.]. As compared with the past, there is to-day a greater incidence of trichophytosis of animal origin than of human.

In the 2nd paper the author presents the results of a similar survey, conducted in 1954–5 at the Ospedale S. Gallicano, Rome, on 82 patients, 55 mycologically positive for dermatophytes. The figures obtained were: *Achorion* [*T.*] *schoenleini*, 3 cases (5·4%); *Microides asteroides* [*T. mentagrophytes*], 4 (7·2%); *Microsporum canis*, 21 (38·2%); *M. audouini*, 1 (1·8%); *T.* [*verrucosum* var.] *ochraceum* 1 (1·8%); *T. tonsurans* 1 (1·8%); and *T. violaceum*, 24 (43·6%).

In the 3rd paper the results presented in the first 2 are analysed. The surveys showed *M. canis* to be the etiological agent in 38·8% of the cases of human tinea in the area concerned, where the most prevalent fungus is *T. violaceum* 40%).

19. Beare (J. M.). **Tinea capitis due to Trichophyton sulphureum.**—*Brit. J. Derm.*, **68**, 6, pp. 193–199, 1956.

Of 82 cases (45 boys, 37 girls) of *T. sulphureum* infection noted in Belfast, 23 showed kerion formation, 15 erythema and folliculitis, and 59 no reaction.

20. Rieth (H.). **Nachweis und Einteilung der Dermatophyten unter Auswertung des Krankengutes der Universitäts-Hautklinik Hamburg von 1951 bis 1955.** [Analysis and classification of dermatophytes, using the case material of the University of Hamburg Dermatological Clinic, 1951–1955.]—*Derm. Wschr.*, **133**, 25, pp. 633–641, 3 fig., 1956.

Of 5,278 samples of squamae examined during the period under review, 1,608 (30·5%) were positive for fungi, the corresponding figures for 1,681 nail and 207 hair samples being 708 (42·1) and 67 (32·4), respectively. Points of special interest presented by the 1,542 cultures included the prevalence of *Trichophyton rubrum* in the onychomycoses (179 or 52%) as compared with epidermophytoses and

superficial trichophytoses (255 or 22·4%) and hair infections (12 or 20%). The occurrence of *Microsporum canis* in 16 cases of tinea capitis (26·7%) and 3 of tinea corporis (0·3%) constitutes a new record for Hamburg.

21. Wagner (Alice). **Die Pilzflora im Bezirk Leipzig.** [The fungus flora in the Leipzig district.]—*Derm. Wschr.*, **134**, 29, pp. 789–797, 2 diags., 1956.

Cultures of 961 samples obtained from patients at the Universitäts Hautklinik, Leipzig, during 1953–55 yielded the following species: *Epidermophyton* [*Trichophyton*] *interdigitale*, isolated 585 times, *E.* [*T.*] *rubrum* 196, *Candida albicans* 135, *T. gypseum asteroides* [*T. mentagrophytes*] 26, *T. g. granulosum* [*T. mentagrophytes*] 9, *T. cerebriforme* [*T. tonsurans*] 3, *T. rosaceum* 1, and *Microsporum audouini* 6. These data are compared with the results of a similar local investigation in 1921–23 and with those reported from other parts of Germany during the last decade.

22. Grin (E. I.). **Superficijalna trihofitija kapilocija kod odraslih.** [Ringworm of the scalp in adults caused by *Trichophyton*.]—*Rad. Nauč. Druš. N. R. Bosne i Hercegovine.* [*Sci. Soc. NR Bosnia and Herzegovina, med. sec.*], **2**, pp. 23–40, 2 graphs, 4 pl., 1956.

Examination of 117,350 people in Bosnia showed 3,026 to be infected with ringworm of the scalp. In one district 34·8% of the 16–20-year group were affected compared with 17% of the over-20 group. In the 16–20 group 71% were women, the rate rising to 99% in the higher age groups.

The results showed that 1 member was infected in 58% of infected families, and 2, 3, 4, and 5 or more in 24·5, 10·3, 4·7 and 1·6% of families, respectively. In 63·3% of the families only the children were infected, in 16·4% both children and mother, in 13·8% only the mother, and in 0·5% only the father.

The two fungi isolated most frequently from the scalps were *Trichophyton violaceum* (91·7%), and *Trichophyton gypseum* [*T. mentagrophytes*].

23. Simuangco (S. A.), Halde (Carlyn), & Reyes (A. C.). **Further report on tinea capitis in the Philippines.**—*J. Phil. Is. med. Ass.*, **32**, 2, pp. 82–86, 1956.

This report from the North General Hospital and the Institute of Hygiene, Manila, of a study of tinea capitis in the Philippines covering 1950–55 is a sequel to one for 1952–54 [**2**, No. 2313]. The clinical diagnoses of 21 cases, all children, were confirmed by mycological methods, including culture in 17. The species isolated, in decreasing order of incidence, were *Trichophyton violaceum, T. tonsurans, T. megnini, Microsporum canis,* and *M. gypseum.* A table gives the location, duration, and clinical description of the infections.

Tinea capitis was found to be most common in males and the highest incidence was between 7 and 12 years. Filipinos and Chinese were equally affected but while among the Chinese *T. violaceum* was the predominant cause, no one predominant fungus was found among Filipinos. *M.* infection is infrequent. Infections are more common in urban than rural areas and among lower than higher income groups.

24. Marcussen (P. V.). **Mycotic infection of the hands.**—*Acta derm.-venereol., Stockh.*, **36**, 4–5, pp. 272–278, 2 fig., 1956. [French, German, and Spanish summaries.]

Among 420 patients with eczematous and intertriginous lesions of the hands and feet in Copenhagen, Denmark, were 12 (3 female) with intertriginous mycosis of the hands. Cultures yielded *Trichophyton mentagrophytes* in 8 cases and *T. rubrum* in 1. The condition was equally prevalent in patients with and without tinea pedis. The chief predisposing factors appeared to be anatomical deformity and occupational compression of the interdigital spaces. Four of 46 patients exposed to

excessive moisture and 4 of 7 working with fat solvents developed mycosis of the hands.

25. Wagner (Irmgard). **Besondere Lokalisationen der Epidermophytie.** [Special localizations of epidermophytosis.]—*Derm. Wschr.*, **134**, 33, pp. 885–891, 3 fig., 1956.

During the past 2 years 33 cases of unusual localization of epidermophytosis were observed at the Universitäts-Hautklinik, Leipzig, the species involved being *Epidermophyton* [*Trichophyton*] *interdigitale* in 23 and *E.* [*T.*] *rubrum* in 10. The affected sites were the lower leg (all in women aged 15–76), the under arm, trunk (all males), and face (1 of each sex). Possible contributory factors are discussed, especially in relation to the follicular-nodular lesions in the female patients.

26. Marples (Mary J.). **The ecology of Microsporum canis Bodin in New Zealand.**—*J. Hyg.*, **54**, 3, pp. 378–387, 1956.

During 1952–55, 171 patients in 138 families were investigated in a survey by the Dept of Microbiology, University of Otago. The first case in each family was seen at a mycological diagnosis clinic for children. *M. canis* was isolated from all of these, and subsequently the other children in the family, the home, and the pets kept there were examined if possible. In the 0–4 year age group the sex distribution of infection was roughly equal. Thereafter males were more commonly affected and the overall distribution showed nearly twice as many males as females. The source of infection was proved to be cats in 30% of families affected, dogs in 4% and humans in 14%. The disease was not associated with poverty or unsatisfactory home conditions. The distribution of the lesions, the clinical findings and epidemiology were also investigated.

27. Hill (B. H. R.). **Ringworm diseases affecting the Cat.**—*N.Z. vet. J.*, **4**, 4, pp. 157–160, 1956. [*V.B.*, **27**, No. 2641.]

This is a general account of *Microsporum canis* ringworm of cats, especially kittens, in New Zealand where the condition is stated to be very common [see above].

28. Buchwald (N. F.). **Microsporum canis Bodin in Cat and Man in Denmark.**—*Sydowia*, Ser. II, Beih. 1, pp. 241–249, 6 fig., 1957.

At the Royal Veterinary and Agricultural College, Copenhagen, the author examined 5 strains of fungi, 2 isolated from humans, 2 from dogs, and 1 from a cat. All, on 2% potato dextrose agar, were identified as *M. canis* [see above].

29. Dey (N. C.) & Kakoti (L. M.). **Microsporum gypseum in India.**—*J. Indian med. Ass.*, **25**, 5, pp. 160–164, 1955.

At the Assam Medical College, Dibrugarh, a laboratory-bred rabbit was found with a favic lesion of the face. The isolation of *M. gypseum* from the lesion and from soil near the animal house is stated to be a new record for India.

30. Sedláček (V.). **Mikrosporon ferrugineum dětských kolektivech.** [*Microsporum ferrugineum* in child centres.]—*Čes. Pediat.*, **10**, 10, pp. 756–760, 1955.

M. ferrugineum infection is stated to be common in Czechoslovakia, Poland, and Hungary. Nineteen cases in children are described.

31. Maskin (I. L.), Taschdjian (Claire L.), & Franks (A. G.). **The etiology of dermatophytosis. Shift from Trichophyton mentagrophytes to Trichophyton rubrum, 1935–1954.**—*Arch. Derm. Syph., Chicago*, **75**, 1, pp. 66–69, 1957. [26 refs.]

A table is given of the annual numbers of patients seen, diagnoses of clinical

mycoses, and isolations of *Trichophyton mentagrophytes*, *T. rubrum*, and *Epidermophyton floccosum* for 1935–54, at the Mycology Section, New York Post-graduate Medical School, and N.Y. University Hospital. During the period *T. rubrum* (35 isolates in 1935, 108 in 1954) gradually replaced *T. mentagrophytes* (189 and 24), a trend also noted in recent literature (which is cited) from other parts of North America. The incidence of *E. floccosum* showed little change.

32. Rosenfeld (H.). **Bemerkungen über Pilzerkrankungen durch Trichophyton purpureum (rubrum).** [Observations on mycoses caused by *Trichophyton purpureum* (*rubrum*).]—*Derm. Wschr.*, **135**, 5, pp. 110–111, 1957.

In connexion with the steadily rising incidence of infection by *T. rubrum* in New York [see above], the author summarizes the principal clinical manifestations of the fungus, emphasizing the difficulties of treatment, especially where the nails are involved.

33. Rothman (S.), Knox (Grace), & Windhorst (Dorothy). **Tinea pedis as a source of infection in the family.**—*Arch. Derm. Syph., Chicago*, **75**, 2, pp. 270–271, 1 fig., 1957.

From the Dept of Medicine, University of Chicago, is reported a case of presumptive husband to wife transmission of *Trichophyton rubrum*. Comments are added on the infectivity of this fungus.

34. Barrack (B. B.). **Fungous infections in Man exemplified by tinea rubrum and actinomycosis.**—*Med. J. Aust.*, **44**, 1(9), pp. 273–275, 1957.

The 1st case described is one in which *Trichophyton rubrum* was isolated from a rash of 3 years' standing on the left forearm of a 44-year-old Australian farmer. No other member of the family had, apparently, become infected.

The 2nd concerns a woman (aged 28) who in Feb. 1956 had all the teeth extracted from her upper jaw. Three weeks later a swelling began below and to the left of the chin. In view of the history of the case, the clinical appearance, the granulomatous nature of the lesion, and the favourable response to treatment with penicillin and sulphadiazine, a provisional diagnosis of *Actinomyces israeli* was made.

35. English (Mary P.) & La Touche (C. J.). **Tinea cruris in Women. A report of three cases.**—*Brit. J. Derm.*, **69**, 9, pp. 311–314, 1957.

Three cases of *Trichophyton rubrum* infection in women are described from the Bristol Royal Hospital and the General Infirmary, Leeds. In the 1st (aged 57) maceration between the toes and a scaling area on the upper thigh were present. In the 2nd (aged 44) the rash included the face, forearms, groins, and feet. In the 3rd (aged 47) athlete's foot had been present for 20 yr.; the present infection involved also the upper thighs, labia majora, and mons. The rarity of groin infection in women is stressed.

36. Pinetti (P.). **Studi sulla variabilità di Trichophyton violaceum. Aspetti macromorfologici. Nota I.** [Studies on the variability of *Trichophyton violaceum*. Macromorphological aspects. Note I.]—*Riv. Ist. sieroter. ital.*, **31**, 6, pp. 441–463, 33 fig., 2 diag., 2 graphs, 1956. [English summary. 29 refs.]

A comprehensive analysis is given of studies covering several years at the University of Cagliari, Sardinia, on some hundreds of strains of *T. violaceum*, which is stated to be responsible for at least three-quarters of the immense number of cases of dermatomycosis occurring on the island [**2**, Nos. 398, 406]. Variations in the material comprised anomalies in the structure, appearance, and consistency of the cultures and in the pigmentation.

37. Vanbreuseghem (R.). **Herpès circiné post-traumatique par Trichophyton quinckeanum.** [Post-traumatic circinate herpes caused by *Trichophyton quinckeanum*.]—*Arch. belg. Derm.*, **13**, 1, pp. 36–41, 1957. [Flemish and English summaries.]

A case of circinate herpes caused by *T. quinckeanum* in a $6\frac{1}{2}$-year-old boy is reported from the Institut de Médecine Tropicale, Antwerp. The lesion developed on the right knee following a fall and was cured in just over a month by treatment with asterol ointment. This unusual observation is considered to afford fresh evidence that the dermatophytes undergo part of their life-cycle in the soil and are, in fact, by nature saprophytic and only accidentally parasitic.

38. Blank (F.), Schopflocher (P.), Poirier (P.), & Riopelle (J. L.). **Extensive Trichophyton infection of about fifty years' duration in two sisters.**—*Dermatologica, Basel*, **115**, 1, pp. 40–51, 7 fig., 1957. [French and German summaries.]

From the Dept of Bacteriology and Immunology, McGill University, Montreal, Canada, the authors report the occurrence of extensive skin lesions and alopecia totalis in two sisters, aged 65 and 55, the infection being of some 50 years' duration in both and presumably contracted during childhood on a farm in the Province of Quebec. In one patient deep, granulomatous lesions also developed. *T. epilans* [**2**, No. 488] was isolated in both cases. The cultures from the granulomata differed slightly from the superficial ones, e.g. in the absence of pigmentation and failure to form micro- and macroconidia. A remarkable regression of the deep-seated lesions followed the oral administration of potassium iodide and X-ray treatment.

39. Hansen (P.) & Rieth (H.). **Pilzprobleme in der werksärztlichen Praxis.** [Fungal problems in works medical practice.]—*Berufsdermatosen*, **5**, pp. 244–256, 8 fig., 1957.

From the Werksärztliche Abteilung der Phoenix-Gummiwerke A. G. Hamburg-Harburg, the author calls attention to the need for proper disinfection of works shower baths. Treatment of foot mycoses may be supported and reinfection from contaminated footwear prevented by the use of inner soles impregnated with antimycotics.

40. Koch (H.). **Experimentelle Untersuchungen über den Einfluß neuerer Sulfonamide auf hautpathogene und andere Pilze.** [Experimental studies on the influence of new sulphonamides on dermatophytes and other fungi.]—*Arch. klin. exp. Derm.*, **205**, 1, pp. 1–21, 8 fig., 1957.

A review of conflicting statements in the literature concerning the anti-mycotic action of sulphonamides is followed by a detailed, fully tabulated report on laboratory experiments with 18 of these compounds on 60 parasitic and saprophytic fungi at the University Dermatological Clinic, Hamburg-Eppendorf, Germany. Only badional and kynex (3-sulphanamido-6-methoxy-pyridazine), a Lederle product, at 1:25, and dosulfin (N_1-4 (isopropoxy-benzoyl)-*p*-aminobenzolsulphonamide, 4-methyl-pyrinidyl (2)-*p*-aminobenzolsulphonamide), supplied by Geigy, at 1:50 completely inhibited the growth of the dermatophytes (comprising 16 species of *Trichophyton*, 3 of *Microsporum*, and *Epidermophyton floccosum*); on *Candida albicans* and *Cryptococcus neoformans* their action was negligible. Tested for their fungicidal properties, dosulfin and badional were again the most effective, suppressing the germination of *M. gypseum* spores after 5 days' contact.

41. Carrié (C.) & Brocker (R.). **Zur Behandlung der Epidermophytie.** [On the treatment of epidermophytosis.]—*Dermatologica, Basel*, **115**, 3, pp. 190–196, 1957. [English and French summaries.]

From the Hautklinik der Städtischen Krankenanstalten, Dortmund, Germany,

the authors report promising results from the topical application in over 150 cases of [unspecified] epidermophytosis of a subproduct obtained from the oxidation of coal with nitric acid. Known as KT, it is a reddish-yellow liquid consisting of the butyl esters of carbonic acid mixtures.

42. Grixoni (F.). **Quindici anni di roentgenterapia delle tigne nella Clinica Dermosifilopatica dell' Università di Sassari.** [Fifteen years of radiotherapy of tinea at the University of Sassari Dermosyphilopathic Clinic.]—*Atti Soc. ital. derm. sif.*, **4**, p. 687, 1955. [Received Dec. 1957.]

Brief details are given of the methods of treatment of 1,673 cases of ringworm during the past 15 years at the Dermosyphilopathic Clinic, University of Sassari, Sardinia. Epilation (by various methods), followed by the use of 10% alcoholic iodine and sulphur-salicylic paste, gave only 0·8% relapses in the trichophytic forms and 3·5% in favus.

43. Hallgren (W.), Hoflund (S.), & Nordström (G.). **Om ringworm och dess behandling.** [Ringworm and its treatment.]—*Medlemsbl. Sver. VetForb.*, **8**, pp. 337–340, 342, 1956. [*V.B.*, **27**, No. 719.]

Satisfactory results were obtained by the use of 2-2′-dihydroxy-5,5′-dichlordiphenyl methane (1–2%) (or the sulphide at 0·5%) in isopropyl alcohol against [unspecified] cattle ringworm.

44. Knight (S. G.). **The in vitro antifungal activity of triacetin.**—*Antibiot. & Chemother.*, **7**, 4, pp. 172–174, 1957. [Spanish summary, pp. 206–207.]

At the Dept of Bacteriology, University of Wisconsin, Madison, triacetin (glycerol triacetate) at 0·5% inhibited the growth on Sabouraud's dextrose agar of *Epidermophyton floccosum*, *Trichophyton mentagrophytes*, *T. rubrum*, *T. tonsurans*, *Microsporum audouini*, and *M. canis*, while *T. schoenleini*, *T. verrucosum*, and *T. megnini* succumbed to 0·25%. On the other hand, *M. gypseum* and *Candida albicans* continued to develop at 0·5%, the maximum concentration tested. The efficacy of the compound was enhanced by the addition to the medium of 10% human blood serum. Apparently the non-specific esterase in the fungi and serum releases acetic acid from triacetin and the free acid, in turn, inhibits the growth of the organisms.

45. Götz (H.) & Schulz (J.). **Zur Frage der Beziehungen zwischen Pilzinfektion und epidermaler Sensibilisierung gegen Dinitrochlorbenzol beim Meerschweinchen.** [On the question of the relations between fungal infection and epidermal sensitization to dinitrochlorobenzol in the Guinea-pig.]—*Arch. klin. exp. Derm.*, **203**, 6, pp. 577–581, 1956.

The results of 2 years' experiments on 190 guinea-pigs at the Dermatological Clinic, University of Munich, demonstrated that those which had recovered from superficial infection by *Trichophyton gypseum* [*T. mentagrophytes*] were not more strongly or rapidly sensitized by the application of 0·1% DNCB than trichophytin-negative ones. Susceptibility of the skin to fungal infection appears to be enhanced by simultaneous treatment of the integument with the allergen. A spontaneous trichophytosis spread more rapidly among DNCB-treated guinea-pigs than in the control groups. It was observed that sensitization to DNCB was prevented or mitigated by summer as compared with winter diet.

46. Mitze (A.). **Uber das Verhalten pathogener Dermatophyten im Tierversuch.** [On the behaviour of pathogenic dermatophytes in animal experiments.]—*Z. Haut- u. Geschlechtskrankh.*, **23**, 5, pp. 133–137, 3 fig., 1957.

At the Skin Clinic of the Municipal Hospital, Essen, Germany, the inoculation of guinea-pigs with *Trichophyton gypseum* [*T. mentagrophytes*] and *Epidermophyton*

Kaufmann-Wolf [*T. interdigitale*] was followed by infection of the regional lymph nodes, from which the two fungi were isolated. Numerous spores were detected within the lymph nodes.

47. Reiss (F.) & Leonard (L.). **Failure of active immunization against Trichophyton gypseum infection in Guinea-pigs.**—*J. invest. Derm.*, **26**, 6, pp. 449–452, 1956.

At the Dept of Dermatology and Syphilis, New York Post-graduate Medical School, and Bellevue Hospital, attempts to immunize guinea-pigs against *T. gypseum* (*T. mentagrophytes*) by the use of either trichophytin Hoechst or cultures of *T. mentagrophytes* after supersonic treatment failed.

48. Dvořák (J.). **Die Anastomosierungsfähigkeit heterogener Dermatophytenhyphen.** [The anastomosing capacity of heterogeneous dermatophyte hyphae.] —*Zbl. Bakt.*, Abt. 2, **110**, 21–25, pp. 697–700, 4 fig., 1 diag., 1957.

Nearly all the species of dermatophytes used in the author's experiments at Šinkova 870, Königgratz, Czechoslovakia, proved capable of anastomosis with each other on Sabouraud's glucose agar at 28° C., the examples illustrated being *Trichophyton gypseum asteroides* [*T. mentagrophytes*] with *Microsporum fulvum* [*M. gypseum*] and *T. g. interdigitale* [*T. interdigitale*] with *M. gypseum*. Similar anastomoses also occurred between dermatophytes and species of *Penicillium*, *Scopulariopsis*, &c.

49. Pinetti (P.). **Su di una semplice metodica per l'allestimento di sospensioni omogense da colture di dermatofiti.** [On a simple method of preparing homogeneous suspensions from cultures of dermatophytes.]—*Boll. Soc. ital. Biol. sper.*, **32**, 10–11, pp. 1372–1373, 1956.

A method of preparing uncontaminated homogeneous mycelial emulsions from cultures of dermatophytes is to place a piece of magnetized iron (1·5 × 0·5 cm.) and 5 or 6 glass balls 0·3 cm. diam. in a test tube, add the necessary quantity of normal saline or other liquid, sterilize in an autoclave, add the mycelium, and agitate by means of an electro-magnetic agitator for 10–30 min.

50. Londero (A. T.). **Méthode de R. Vanbreuseghem pour la coloration de l'agent du pityriasis versicolor. (Modification de la méthode. Son usage dans les teignes de la peau glabre.)** [R. Vanbreuseghem's method for staining the agent of pityriasis versicolor. (Modification of the method. Its use in tineas of the glabrous skin.)]—*Arch. belg. Derm.*, **13**, 1, pp. 42–45, 2 fig., 1957. [Flemish and English summaries.]

At the Faculty of Pharmacy and Medicine of Santa Maria, Rio Grande do Sul, Brazil, the author has introduced various improvements into Vanbreuseghem's method for staining the agent of pityriasis versicolor [*Malassezia furfur*, **2**, No. 1391], including the substitution of a drop of Mayer's albumin for the solution of collodion, absolute alcohol, and sulphuric ether as a coating for the slides.

51. Franks (A. G.), Taschdjian (Claire L.), & Gutierres (C. T.). **Onychomycosis due to Scopulariopsis brevicaulis. Case concurrent with dermatophytosis and infestation with a tyroglyphid mite.**—*Arch. Derm. Syph., Chicago*, **74**, 3, pp. 241–244, 3 fig., 1956.

A 58-year-old postal worker had a bullous eruption on the sole of the left foot, due to *Trichophyton mentagrophytes*. In addition the big toenail was brittle and deeply undermined, with an area of brownish-yellow discoloration. The adjacent nail was likewise affected, and the discoloration was stated to be of about one year's duration. Soft debris from beneath the nail plates contained abundant thick-walled spores and hyphae of *S. brevicaulis*. There were also numerous ova,

larvae, and adults of a tyroglyphid mite. The plantar infection responded well to 5% ammoniated mercury ointment. Treatment of the nails with ammoniacal silver nitrate cleared the mite infestation within 2 months and *S. brevicaulis* could no longer be cultured, though occasionally hyphae were to be seen on direct examination.

52. Spiller (W. F.), Mullins (F.), & Knox (J. M.). **Tinea nigra.**—*J. invest. Derm.*, **27**, 3, pp. 187–192, 1956.

From the Depts of Dermatology of Baylor University College of Medicine, Houston, Texas, and the University of Texas Medical Branch, Galveston, 3 cases of tinea nigra in females of 16 and 4 and in a male of 3, are reported in full, together with descriptions of clinical appearances on the palm, microscopical examination, and cultures identified as *Cladosporium wernecki*.

53. Ciferri (R.), Chaves Batista (A.), Ciferri (Fiorella), & Da Costa Alecrim (I.). **The culture of Piedraia hortai in natural media.**—*Atti Ist. bot. Univ. Pavia*, Ser. 5, **14**, 1–3, pp. 121–127, 2 fig., 1957. [Portuguese summary. 8 refs.]

Experimental evidence indicated that the most favourable natural medium for the growth of *P. hortai* is powdered skin (analytical grade), especially with added glucose, although the skin is never parasitized. In cultures on wood, 30–40 days old, the fungus appeared as ordinary dematiaceous mycelium. On the hair of dog, cat, horse, rabbit, and mouse no growth, or almost no growth, occurred, and there was none on feather, wool, or hoof. The fungus grew, however, on the wing nerves of cockroaches. Slight growth took place on human hair, with the formation (after 1 month) of very small stromata. No information could be obtained about interference by *P. hortai* with the common microbial flora of human hair, as it was impossible to grow the fungus on unsterilized hair.

[There appears to have been a pre-publication issue of this paper as *Publ.* No. 51, *Inst. Mycol. Univ. Recife*, 9 pp., 1956.]

54. Brygoo (E. R.). **La chromoblastomycose à Madagascar.** [Chromoblastomycosis in Madagascar.]—*Sem. Hôp. Paris*, **33**, 13/2, 774/SP.74–789/SP.89, 2 pl. (1 col.), 4 fig., 1 map, 1957. [54 refs.]

This paper includes a brief historical review, an account of the etiology and histopathology of the disease, and of the culture of the parasites, together with details of 24 new cases of chromoblastomycosis in Madagascar, where the disease is particularly common. Only 1 European was affected. The disease attacks chiefly the rural population in the southern part of the island, particularly in places near the coast. It appears mainly as a condition affecting adult males (19 men, all over 30, 5 women). The leg usually becomes infected, development is slow, and the general health remains unaffected. Emphasis is laid upon the difficulty of clinical diagnosis and the non-specific character of the lesions. From a study of 10 isolates, G. Segretain identified 5 as *Phialophora pedrosoi*, and 4 as *Cladosporium* sp. (*C. carrionii*). One remained undetermined.

55. Findlay (G. H.). **Chromoblastomycosis caused by the Simson species of Hormodendrum.**—*S. Afr. J. Med.*, **31**, 22, pp. 538–540, 4 fig., 1957.

A species of *Hormodendrum* [*Cladosporium carrionii*] corresponding to that described by Simson *et al.* [**2**, No. 1237] was isolated at the Dept of Internal Medicine, University of Pretoria, from a serpiginous, verrucose infiltration on the left forearm of a 51-year-old male. The injury occurred while loading paraffin tins (one of which fell on the arm) in a dusty rural environment in the Transvaal. Some observations on the formation of the tubercle are presented. The fungus in question does not appear to have been recovered in S. Africa since it was first detected.

56. Morquer (R.) & Enjalbert (Mme L.). **Sur un nouvel agent de l'aspergillose humaine.** [On a new agent of human aspergillosis.]—*Rev. Mycol., Paris*, **22**, 2, pp. 130–154, 1 pl. (after p. 255), 1 fig., 1957. [29 refs.]

An expanded account of work on *Aspergillus carneus* already noticed [**2**, No. 2359].

57. Segretain (G.) & Vieu (Monique). **Formes parasitaires des Aspergillus dans l'Aspergillome bronchique : diagnostic biologique des aspergilloses broncho-pulmonaires.** [Parasitic forms of *Aspergillus* in bronchial aspergilloma: the biological diagnosis of broncho-pulmonary aspergilloses.]—*Arch. Biol. méd.*, **33**, 4, pp. P. et B. 1281 (B. 421)–P. et. B. 1289 (B. 429), 9 fig., 1 diag., 1957. [English, German, and Spanish summaries.]

Microscopic examination at the Institut Pasteur, Paris, of parasitic forms present in 10 cases of broncho-pulmonary aspergillosis showed that the parasite can assume a filamentous or vesiculous shape in the large mycelial masses, in which asexual multiplication seldom occurs. Histopathology is often the only means of deciding whether the *Aspergillus* isolated is pathogenic or not. The characteristic features of the genus and of the 2 pathogenic species, *A. fumigatus* and *A. nidulans*, are described.

58. Enjalbert (L.), Segretain (G.), Eschapasse (H.), Moreau (G.), & Bourdin (M.). **Deux cas d'aspergillose pulmonaire. Étude anatomopathologique.** [Two cases of pulmonary aspergillosis. An anatomopathological study.]—*Sem. Hôp. Paris*, **33**, 13/2, 830/SP.130–842/SP.142, 1 col. pl., 28 fig., 1957. [13 refs.]

A well-illustrated account is given of anatomo-clinical observations on 2 cases of pulmonary aspergillosis treated surgically. *Aspergillus* [? *fumigatus*] heads were observed for the first time in France in a mycetoma and there were also signs that the fungus had penetrated the tissues.

59. Darke (C. S.), Warrack (A. J. N.), Whitehead (J. E. M.). **Pulmonary aspergillosis, report of a case.**—*Brit. med. J.*, 5025, pp. 984–985, 1957.

A case of pulmonary aspergillosis complicating a fatal diffuse bacterial pneumonia in a man of 63 is described from Sheffield. Antibiotics are assumed to have favoured the saprophytic development of the associated fungus, *Aspergillus fumigatus*.

60. Stevenson (J. G.) & Reid (J. M.). **Broncho-pulmonary aspergillosis—report of a case.**—*Brit. med. J.*, 5025, pp. 985–986, 1957.

At the Mearnskirk Hospital, Renfrewshire, a 62-year-old man showed radiological evidence of a lung cavity from which *Aspergillus fumigatus* was cultured. After initial improvement following treatment with intravenous hydroxystilbamidine and oral nystatin [mycostatin] the patient died with renal failure.

61. Brule (R. A.). **A case of pulmonary aspergillosis.**—*Tubercle*, **38**, 3, pp. 203–209, 4 fig., 1957.

From the Chest Clinic, Cambridge, the author describes a case of primary pulmonary aspergillosis (*Aspergillus fumigatus*) in a 52-year-old farmer, who had twice been struck on the right chest with a starting handle during the previous 2 months. Treatment by lobectomy was successful.

62. Bariéty (M.), Poulet (J.), Monod (O.), & De Brux (J.). **Aspergillose aiguë, purement pulmonaire, à forme de cancer bronchique.** [Acute aspergillosis, purely pulmonary, in the form of bronchial cancer.]—*Bull. Soc. méd. Hôp. Par.*, Sér. 4, **73**, 14–15, pp. 397–411, 9 fig., 1957. [65 refs.]

An aspergillus of the *A. fumigatus* type was associated with, and is thought to have

been responsible for, an illness simulating bronchial cancer [cf. **2**, No. 385] in a 52-year-old artist, who was successfully treated by lobectomy. The available information on this rare disease is summarized and discussed.

63. Hughes (F. A.), Gourley (R. D.), Burwell (J. R.). **Primary pulmonary aspergillosis : report of an unusual case successfully treated by lobectomy.**—*Ann. Surg.*, **144**, 1, pp. 138–144, 6 fig., 1956.

At the Thoracic Surgery Section, Veterans Administration Medical Teaching Group Hospital, Memphis, Tennessee, a fibrotic infiltration of the upper lobe of the left lung, caused by *Aspergillus* [*? fumigatus*], was surgically removed from a 56-year-old negro plasterer who had been admitted with a history of haemoptysis, chronic productive cough, and dyspnoea on exertion. His recovery was uneventful.

64. Halde (Carylyn) & Ringrose (E. J.). **Mycetoma originating in Northern California.**—*Arch. Derm. Syph., Chicago*, **74**, pp. 80–85, 1956.

From Stanford University School of Medicine, San Francisco, a disease caused by a fungus resembling *Nocardia* [*Streptomces*] *madurae* is reported in a white woman in N. California. Infection had been present in a toe for 10 yr. following an injury, and the fungus was still recoverable 1 yr. after instituting sulphonamide therapy, although clinical improvement was marked.

65. Galy (P.), Ollagnier (C.), & Champetier. **Un cas d'aspergillome intracavitaire au cours d'une tuberculose pulmonaire évolutive.** [A case of intracavitary aspergilloma in the course of an evolutive pulmonary tuberculosis.]—*Lyon méd.*, **98**, 39, pp. 283–285, 1957.

The fungus isolated at the Hôpital Jules-Courmont, Lyons, from the intracavitary megamycetoma in a 27-year-old agricultural labourer suffering from active tuberculosis was identified as an apparently undescribed species of *Scopulariopsis*. A cure was effected by surgical intervention following a 6-month course of antibiotic, pneumoperitoneal, and cortisone therapy.

66. Camain (R.), Segretain (G.), & Nazimoff (Olga). **Étude histopathologique des mycétomes du Sénégal et de la Mauritanie.** [A histopathological study of the mycetomas of Senegal and Mauretania.]—*Arch. Biol. med.*, **33**, 3, pp. P. et B. 923 (B. 303)–P. et B. 938 (B. 318), 1 col. pl., 5 fig., 1957. [English, German, and Spanish summaries. 27 refs.]

In a study at the Institut Pasteur, Paris, of material from 100 cases of mycetoma, almost all from Senegal and Mauretania, *Madurella mycetomi*, *Monosporium apiospermum* [*Allescheria boydii*], *Streptomyces pelletieri*, *S. somaliensis*, and *S. madurae* were identified (by the morphology of the grains and the histopathological lesions present) in 42, 5, 32, 14 and 17 instances, respectively. In some cases the findings were confirmed by cultures of the pathogen. A source of infection by *S. madurae* was found to exist at Atar, Mauretania.

[Another version of this paper appears in *Sem. Hôp. Paris*, **33**, 13/2, pp. 771/SP. 71–774/SP.74, 1 col. pl., 1957.]

67. Segretain (G.). **Diagnostic biologique des maduromycoses.** [The biological diagnosis of maduromycoses.]—*Arch. Biol. med.*, **33**, 4, pp. P. et B. 951 (B. 331) –P. et B. 955 (B. 335), 1957. [English, German, and Spanish summaries.]

The author describes briefly the isolation and culture of the organisms causing maduromycosis (*Madurella mycetomi*, *M. grisea*, and *Allescheria boydii*, as its imperfect state, *Monosporium apiospermum*), experiments on pathogenicity, and treatment. In Senegal, 2 new strains of *M. mycetomi* have been isolated, in addition

to 1 identified as *M. grisea*. This is the first time that *M. grisea* has been found in Senegal.

The addition of nystatin [mycostatin] (18 mg./ml.) to the medium appreciably inhibited the growth of *M. mycetomi* (4 strains), *M. grisea* (4), *Phialophora jeanselmei* (1), and *A. boydii* (1).

68. Ziprkowski (L.), Altmann (G.), Dalith (F.), & Spitz (U.). **Mycetoma pedis. Four cases treated with Streptomycin.**—*Arch. Derm. Syph., Chicago*, **75**, 6, pp. 855–863, 10 fig. 1957. [*T.D.B.* **54**, p. 1214.]

The authors describe in some detail 4 cases of mycetoma of the foot (*Nocardia* [*Streptomyces*] *madurae* 3, *N.*[*S.*] *somaliensis*, 1) in Israel, affecting 3 men aged 35, 36, and 45 years, and a woman of 44, all natives of the Yemen.

The strains of *S. madurae* were sensitive *in vitro* to streptomycin and tetracycline, but the *S. somaliensis* strain was sensitive only to tetracycline. The appearance of the fungi in culture is described.

69. Mariat (F.). **Sur l'utilisation de divers composés carbonés et azotés par Streptomyces madurae, Streptomyces pelletieri, et Streptomyces somaliensis.** [On the utilization of various carbon and nitrogen compounds by *Streptomyces madurae*, *Streptomyces pelletieri*, and *Streptomyces somaliensis*.]—*C. R. Acad. Sci., Paris*, **245**, 5, pp. 593–596, 1957.

Further studies on the species of *Streptomyces* mentioned in the title [**2**, No. 679] were concerned with their physiological properties and demonstrated, *inter alia*, the assimilation of starch, mannitol, and xylose by *S. madurae* and of maltose by *S. somaliensis*; the latter species, however, did not utilize urea.

70. Harris (J. S.), Smith (J. G.), Humbert (W. C.), Conant (N. F.), & Smith (D. T.). **North American blastomycosis in an epidemic area.**—*Publ. Hlth. Rep., Wash.*, **72**, 2, pp. 95–100, 1957.

In Pitt County, North Carolina, 1,648 persons were examined for North American blastomycosis (*Blastomyces dermatitidis*) [**2**, No. 1483] by blastomycin skin and complement-fixation tests, supplemented by 70-mm. chest X-rays. Sensitivity to histoplasmin and tuberculin was determined simultaneously.

Positive reactors to blastomycin numbered 42 (2·9%), histoplasmin 88 (6·4), and tuberculin 340 (25·6). The results of complement-fixation and blastomycin skin sensitivity tests were conflicting. There was an unexpectedly large number (11) of individuals who were sensitive to both histoplasmin and blastomycin, but no correlation was observed between a positive reaction to tuberculin and either of the other antigens.

71. Doray (M.), Guy (R.), Dionne (P.), Bégin (B.-G.), & Lambert (J.). **Un cas de blastomycose nord-américaine traiteé avec succès par la 2-hydroxy-stilbamidine.** [A case of North American blastomycosis successfully treated with 2-hydroxystilbamidine.]—*Un. méd. Can.*, **86**, 2, pp. 182–187, 6 fig., 1957.

The case described involved a 37-year-old patient at the Hôpital du Sacré-Cœur, Montreal, a carpenter from a rural district of Quebec, who was still asymptomatic 28 months after a course of therapy with 2-hydroxystilbamidine (total of 11·25 g.).

72. Carnesale (P. L.), & Stegman (K. L.). **Blastomycosis of bone. Report of four cases.**—*Ann. Surg.*, **144**, 2, pp. 252–257, 5 fig., 1956.

From the Dept of Orthopaedic Surgery, Veterans Administration Hospital, Wood, and the Marquette University School of Medicine, Milwaukee, Wisconsin, are reported 4 cases of osseous blastomycosis [*Blastomyces dermatitidis*] arrested over long periods by various treatments.

73. Chick (E. W.) & Lehan (P. H.). **Diagnostic aspects of bromoderma and blastomycosis.**—*GP* (*Amer. Acad. gen. Pract.*), **16**, 2, pp. 104–107, 5 fig., 1957.

As exemplified by 2 patients, a 50-year-old white male and a 41-year-old coloured female, at the Communicable Disease Center, Kansas City, the fungating skin lesions caused by chronic bromide poisoning (bromoderma) may be strikingly similar to those of blastomycosis (*Blastomyces dermatitidis*) [cf. **2**, No. 2035]. A diagnosis of the former condition is suggested by the presence of an acne-like lesion in addition to the fungating one, and high serum bromide levels are confirmatory. Important clinical methods of diagnosing blastomycosis are skin tests with blastomycin, serology, and microscopic and cultural demonstration of the fungus, while biopsy (from the periphery of the lesion) is also valuable. Attention is drawn to the likelihood of a primary pulmonary focus in cases of cutaneous blastomycosis.

74. Viola (M. S.). **Bronchopulmonary moniliasis ; with a case report.**—*J. Philipp. med. Ass.*, **32**, 6, pp. 347–364, 6 fig., 1 graph, 1956. [38 refs.]

This report from the Central University Hospital and the College of Medicine, Manila, is believed to be the first from the Philippines of bronchopulmonary moniliasis caused by *Monilia* [*Candida*] *albicans*.

After a brief historical survey criteria for diagnosis are given, then follow full details of a case of a 42-year-old obese, diabetic, male, Filipino rig driver, suffering from a pulmonary disease fulfilling all these criteria.

The symptoms did not yield to treatment with antibacterial antibiotics but recovery was uneventful and rapid when mysteclin (a combination of mycostatin and tetracycline), to which *C. albicans* is very sensitive, was given. Sputum smears and cultures were negative for acid fast bacteria but positive for *C. albicans*, as were serological tests.

75. Larroche (J. C.). **Candidose pulmonaire chez des prématurés. Discussion de leur origine fœtale.** [Pulmonary candidosis in premature infants. A discussion of their foetal origin.]—*Sem. hôp. Paris*, **33**, 13 2, pp. 829 SP.129–830 SP. 130, 1957.

This is a brief account of a study of 3 cases of massive, diffuse broncho-pneumonia (due to a fungus identified on morphological grounds as *Candida albicans*) in 3 premature infants who died 5, 15, and 3 days after birth, the evidence indicating that thrush may have been a cause of death.

76. Lodin (H.). **Roentgen diagnosis of pulmonary mycoma.**—*Acta radiol., Stockh.*, **47**, 1, pp. 23–28, 6 fig., 1957. [German and French summaries.]

Four cases of mycoma, a localized tumour-like pulmonary lesion, are reported from the University Hospital, Uppsala, Sweden, 2 in men aged 65 and 56, and 2 in women, 47 and 52. In 3 of the patients the radiological appearances were typical: a more or less rounded opacity lying in a cavity and separated from the cavity-wall by a layer of air. In the fourth the findings were uncharacteristic. A species of *Endomyces* was cultured from the sputum and bronchial secretion of one patient, while a free, partially calcified mass of *Monilia candida* [? *Candida tropicalis*] was present in another.

77. Pace (L.). **Un caso di moniliasi settica con rara complicazione pneumonica.** [A case of septic moniliasis with rare pneumonic complication.]—*Riv. med.*, **71**, 2, pp. 36–41, 5 fig., 1957. [French, English, and German summaries.]

From the Ospedale Cardarelli, Naples, the author presents in detail a case of rare pneumonic localization (in the right pulmonary lobe) of *Candida albicans*, which developed in the course of a fatal septicaemia in a 32-year-old woman. The viru-

lence of the fungus, already present in ulcers on the back, is believed to have been aggravated by antibiotic therapy for the relief of odontogenic maxillary sinusitis.

78. Sahni (P. S.). **Pulmonary moniliasis.**—*J. Pediat.*, **50**, 4, pp. 484–486, 2 fig., 1957.

From the Bridgeport Hospital, Connecticut, a case of pulmonary moniliasis in an 8-year-old boy is reported. Therapy comprised the administration 3 times daily of (1) 2 gr. potassium iodide, (2) 40,000 units mycostatin in 2 ml. aerosol by inhalation, and (3) 500,000 units of the same taken orally. Postural drainage of gradually increasing duration was also effected thrice daily. When an X-ray was taken 18 days after the institution of the foregoing regimen the lung fields were found to be essentially clear.

79. Wollheim (E.) & Braun (H.). **Pilzinfektionen der Lunge mit septischem Verlauf.** [Fungal infections of the lung with aseptic course.]—*Dtsch. med. Wschr.*, **82**, 35/1, pp. 1397–1399, 1957.

This is a report from the Medical University Clinic, Würzburg, Germany, on 8 cases of pulmonary mycosis observed recently over a period of less than a year. Seven were caused by either *Candida albicans* or *C. tropicalis*, while an *Aspergillus* sp. also was present in the 8th. *C. albicans* and *A.* sp. were cultured from the blood of 2 patients. In 2 cases the mycosis was secondary to lung carcinoma and advanced tuberculosis, respectively, but in the others it was a primary disease.

80. Carlson (S.) & Husmann (K.-H.). **Nachweis und Differenzierung von Hefe-Arten nach Disseminierung im Organismus durch Antibiotika.** [Demonstration and differentiation of yeast species after dissemination in the system by antibiotics.]—*Zbl. Bakt.*, Abt. 1 (*Orig.*), **165**, 1, pp. 58–64, 3 fig., 1956. [English, French, and Russian summaries.]

At the Hygiene-Institut der Johannes-Gutenberg-Universität, Mainz, Germany, the differentiation of 39 yeast strains cultured from throat and larynx swabs and post-mortem from various organs of children undergoing antibiotic therapy revealed a predominance of *Candida albicans*, while other species represented were *C. guilliermondi*, *C. tropicalis*, *C. mycoderma*, *C. parapsilosis* var. *intermedia*, *C. pulcherrima*, and *Pichia membranaefaciens*. With the simultaneous application of the Hotchkiss-McManus stain the histopathological action of the organisms in lung and kidney sections could be followed.

81. Cabaniss (W. H.), Manley (W. F.), & Swan (R. E.). **Cutaneous moniliasis in a premature infant. Report of a case with unusual clinical manifestations.**—*J. Pediat.*, **50**, 4, pp. 480–483, 2 fig., 1957.

From the University of Virginia Hospital the authors report the occurrence of an unusual type of cutaneous moniliasis (*Candida albicans*) in a premature female negro infant. On the 2nd or 3rd day after birth an erythematous, moist, macular lesion appeared at the nape of the neck and extended peripherally during the next few days, becoming oval and annular and reaching a diam. of some 3·5 cm. Oral lesions typical of thrush developed on the mucous membrane and were successfully treated with bismuth solution. The neck lesion, however, was refractory to this treatment and also to a combination of bacitracin and neomycin. Beginning on the 42nd day of life, applications of an ointment containing nystatin [mycostatin] (1,000,000 units/oz.) were made 4 times daily for 3 days, by the end of which time the lesions had virtually disappeared.

82. Arievitch (A. M.), Smilov (N. C.), Porudominski (J. H.), Stenanisteva (Mme Z. G.), Touranova (Mme E. H.), & Kalamkaryan (A. A.). Одрожже-

вых поражениях слизистых оболочек и кож, возникающих при лечении биомицином и синтомицином. [Lesions of the skin and mucous membranes following treatment with biomycin and syntomycin.]—*Vest. vener.*, **6**, pp. 8–13, 4 fig., 1955.

Biomycin and syntomycin predispose to candidiasis [*Candida albicans*] of the mucous membranes and skin, a majority of patients treated with these antibiotics developing the disease, which is usually transitory. When *Candida* infection occurs the antibiotic treatment may be continued provided the infection remains static, but must be discontinued if it spreads.

83. Halde (Carlyn) & Aragon (G. T.). **The incidence of yeastlike organisms in the lower genital tract of pregnant Filipino women.**—*Amer. J. Obstet. Gynec.*, **72**, 2, pp. 363–366, 1956.

In this study from the Dept of Medicine, Stanford University School of Medicine, and the Dept of Obstetrics, University of the Philippines College of Medicine, vaginal swab cultures were obtained from 171 healthy pregnant Filipino women. In 33 of them, who complained of pruritus vulvae, the isolates were as follows: *Candida albicans* (10 cases), *C. tropicalis* (3), negative (20). In the remaining 138 the isolates were *C. albicans* (2), *C. krusei* (2), *C. guilliermondi* (2), *C. stellatoidea* (4), *Cryptococcus* sp. (7), *Saccharomyces* sp. (14), negative (107).

84. Staib (F.) & Ata (S.). **Die Bedeutung der Kahmhefe Candida krusei (A. Castellani) Berkhout beim Menschen.** [The significance of the mycelial yeast *Candida krusei* (A. Castellani) Berkhout in Man.]—*Zbl. Bakt.*, Abt. 1 (Orig.), **169**, 3–4, pp. 275–287, 1957. [English, French, and Russian summaries.]

At the Institute for Hygiene and Microbiology, University of Würzburg, Germany, *C. krusei* was isolated on beer wort, blood, and Gassner agars at 37° C. from 38 out of 900 samples of faeces from local hospitals [cf. **2**, No. 2123], the highest incidence occurring during the summer and autumn. In 6 cases the growth of *Escherichia coli* was inhibited by the abnormal development of the fungus. *C. krusei* was also isolated from fresh fruits and especially from wines that had ceased fermenting, which are regarded as the most probable source of infection.

C. krusei is not suppressed by the gastric juices. It assimilates most amino acids, cystein hydrochloride being an exception. *E. coli* forms an inhibitory substance against *C. krusei in vitro*, but the reverse is not the case. The difficulty of reconciling this observation with the above-mentioned suppression of the bacterium is admitted. In a self-experiment the fungus did not appear in the excreta until 36 hr. after ingestion and was then sporadically demonstrable until the 7th day. Intestinal disturbances persisted for 2 days. The growth of *E. coli* was practically nil.

During a 2- to 3-year period *C. krusei* was isolated only once from numerous samples of sputum. It also occurred in the urogenital tract of a female patient suffering from chronic nephritis, temporarily accompanied by cystitis, who was successfully treated with trichomycin [**2**, No. 2130].

C. krusei and other yeast-like fungi were destroyed within 1 min. by disinfectants with quaternary ammonium bases in experiments reported in *Z. Desinf. Gesundheitsw.*, **48**, p. 182, 1956.

85. Lindquist (Bertil). **Generalised moniliasis.**—*Acta derm.-venereol., Stockh.*, **37**, 4, pp. 317–326, 5 fig., 1957. [French, German, and Spanish summaries.]

From the Dept of Pediatrics, University of Lund, Sweden, the author describes a case of generalized infection by *Candida albicans* in a girl in whom isolated skin changes occurred in infancy and gradually spread over the entire body. The child spent about 1 yr. in hospital after admission at 1½ yr. old and returned 6 yr. later.

Clinical symptoms included massive infection of the gastro-intestinal tract and external genitalia. The condition was refractory to ordinary antibiotics, but a prolonged course of 1,2,3,4-tetrahydrofluorenone (T.H.F.) in a dose of 0·1 g.×4–5 exerted a beneficial effect, especially on the desquamation.

86. Taschdjian (Claire L.) & Kozinn (P. J.). **Laboratory and clinical studies on candidiasis in the newborn infant.**—*J. Pediat.*, **50**, 4, pp. 426–433, 5 fig., 1 graph, 1957.

The following conclusions are based on findings obtained at the Maimonides Hospital, Brooklyn, New York, from the examination of oral and faecal samples collected over a 9-month period from 2,175 new-born infants. *Candida albicans* cannot be regarded as a normal constituent of the microbial flora, and the presence of its blastospores in oral smears from the 3rd or 4th day onwards permits the almost certain prediction (98·5%) of clinical oral thrush developing within 1 to 5 days. The disease is present or imminent as soon as hyphae are detected in direct oral smears.

The presence of the fungus in the intestine is closely associated with clinical moniliasis and predisposes to cutaneous lesions in the perianal region.

Brief indications for treatment arising out of these observations are given.

87. Childs (A. J.). **The effect of various drugs on the growth of Candida albicans during antibiotic therapy, including amphotericin, a new antifungal antibiotic.** —*Scot. med. J.*, **2**, 10, pp. 400–402, 1957.

At the Ruchill Hospital, Glasgow, the growth of *C. albicans* in rectal and throat swabs and sputum from 138 patients (all males over 12 years of age) with pneumonia was studied during and after treatment with tetracycline [terramycin] either alone (control group) or combined with nystatin [mycostatin], amphotericin (*Antibiot. Annu.*, 1955–6, p. 579), chlorohydroxyquinoline, and chlorohydroxyquinaldine. All the drugs reduced intestinal infection to some extent but exerted little influence on the incidence of the fungus in the throat; mycostatin and amphotericin were more effective than the quinoline and quinaldine derivatives. No consistent action on the yield of *C. albicans* from the sputum was demonstrated.

88. **Candidiasis (Moniliasis) and its management with mycostatin.**—*Monographs in Therapy*, **2**, 1, pp. 1–98, 10 fig., 5 graphs, 1957.

This monograph from the Squibb Institute for Medical Research, New Brunswick, New Jersey, includes contributions from H. Blank, *Candida albicans*: frequent companion, occasional foe (pp. 1–6); M. H. Lepper, The use of nystatin in the control of candidiasis, particularly that following the use of antibacterial agents (pp. 7–11); E. T. Wright, V. D. Newcomer, C. Halde, & T. H. Sternberg. The use of nystatin for the treatment of candidiasis of the skin and mucous membranes (pp. 12–15); P. J. Kozinn, Claire L. Taschdjian, D. Dragutsky, & A. Minsky, Therapy of oral thrush: a comparative evaluation of gentian violet, mycostatin, and amphotericin B (pp. 16–24); W. R. Lang & J. G. Stella, Obstetric candidal vulvovaginitis: its treatment by nystatin vaginal tablets (pp. 25–28); H. R. Pace & S. I. Schantz, The changing incidence of monilial (*Candida albicans*) vaginitis (pp. 29–37); E. H. Spaulding & R. R. Tyson, The role of nystatin in intestinal antisepsis (pp. 38–42); I. Cohn, Yeast growth during preoperative preparation of the colon with antibiotics (pp. 43–48); B. Dobias, Treatment of cutaneous moniliasis in pediatrics with nystatin (pp. 49–54); R. C. V. Robinson, Nystatin in the treatment of cutaneous moniliasis (pp. 55–59); Nancy N. Huang & R. H. High, Treatment of oral moniliasis in infants and children with nystatin (pp. 60–66); F. Reiss, The pathogenicity of the genus *Candida* in relation to antibiotic therapy (pp. 67–68); Rachel Brown & Elizabeth L. Hazen, Discovery of

nystatin (pp. 69–74) [2, No. 2253]: Claire L. Taschdjian. Isolation and identification of *Candida albicans* (pp. 75–79): G. H. Scherr. The influence of hormones on experimental moniliasis (pp. 80–82): Charlotte C. Campbell. The therapeutic activity of mycostatin in mice experimentally infected with *Candida albicans* (pp. 83–84): Edith Neumann. Nystatin sensitivity studies with the aid of paper disks (pp. 85–86): J. D. Dutcher. The chemistry of nystatin and related antifungal antibiotics (pp. 87–98).

Most of the contributions have useful bibliographies.

89. Thomas (H. H.). **Candidal vulvovaginitis; treatment with mycostatin.**—*Obstet. Gyn.*, **9**, 2, pp. 163–166, 1957.

During an 18-month period 425 patients (11 pregnant, 2 proved diabetics) diagnosed at the Dept of Gynecology, Medical College of Alabama, Birmingham, as having vulvovaginitis caused by *Candida albicans* were treated with mycostatin. Of 96 patients with records suitable for tabulation 85 had from good to excellent results. 75% of the patients using less than 30 pessaries (1 daily).

90. Ballan (P.), Geyer (A.), & Treguer (J.). **L'identification rapide de Candida albicans.** [The rapid identification of *Candida albicans*.]—*J. méd. Bordeaux*, **134**, 2, pp. 234–237, 2 fig., 1957.

At the Travail du Service de Clinique Médicale, Bordeaux, the authors confirmed the value of an admixture of 10% ox gall with potato-carrot agar [2, No. 2116] and found it as useful as maize meal agar for the speedy identification of *C. albicans*.

91. Liu (P.) & Newton (A.). **Rapid chlamydospore formation by Candida albicans in a buffered alkaline medium.**—*Amer. J. clin. Path.*, **25**, 1, pp. 93–97, 1 fig., 1955.

From the Dept of Bacteriology, 406th Medical General Laboratory, San Francisco, a diagnostic medium for *C. albicans* is described (0·5% Na_2HPO_4, 0·3% KH_2PO_4, 0·05% sodium thioglycollate, 0·8% of 0·2% aqueous phenol red, and 1·5% agar, adjusted to pH 8 and autoclaved at 15 lb. for 15 min.), which, by starving the organisms under anaerobic conditions at high pH, induces chlamydospore formation in 12–18 hr. at 37° C.

A method for using the medium on a slide and a technique for drying and staining the resultant preparation are described.

92. Pavlatou (M.) & Marselou (U.). **Sur le rôle de la bile dans le milieu PCB. Autres substances qui fournissent la production de chlamydospores par Candida albicans.** [On the action of bile in PCB medium. Other substances which favour the production of chlamydospores by *Candida albicans*.]—*Ann. Inst. Pasteur*, **93**, 1, pp. 146–149, 1957.

In a previous communication (*ibid.*, **91**, p. 410, 1956) from the 'Alexandra' Maternity Laboratory, Athens, the authors described a potato-carrot-bile medium for the rapid production of chlamydospores by *C. albicans*. They now find that the same effect can be produced by the substitution for bile of any substance which will reduce surface tension, such as organic acid salts, biliary salts, albumin, Tween 80, soaps and teepol. This action is inhibited by the addition of sodium chloride, a substance which raises surface tension, to the medium. It is concluded that the lowering of the surface tension of the medium is conducive to chlamydospore production.

93. Drouhet (E.) & Vieu (Monique). **Biologie des infections à Candida. I. Diagnostic de laboratoire. (Étude de 342 souches de Candida isolées de prélèvements pathologiques).** [The biology of *Candida* infections. I. Laboratory diagnosis.

(A study of 342 strains of *Candida* isolated from pathological material.)]—*Sem. Hôp. Paris*, **33**, 13/2, pp. 793/SP.93–807/SP.107, 4 fig., 5 diag., 1957.

DROUHET (E.). **Biologie des infections à Candida. 2. Sur les manifestations pathologiques et les conditions étiologiques et pathogèniques de 175 cas de candidose.** [The biology of *Candida* infections. 2. On the pathological manifestations and etiologic and pathogenic conditions of 175 cases of candidiasis.]—*Ibid.*, **33**, 13/2, pp. 807/SP.107–828/SP.128, 2 col. pl., 2 fig., 1957. [198 refs.]

After referring to the prevalence of *Candida* infections, the authors, in this important paper, describe the laboratory diagnosis of such infections, the points dealt with covering the definition and systematic position of *Candida* species, the material used, its direct examination, its identification from its morphological and physiological characters, and its pathogenicity to laboratory animals.

While *C.* spp. are often only saprophytic, the presence of *C.* of whatever species or number of species in the blood, urine, cerebro-spinal fluid, or in any closed focus of inflammation is definitely pathological. On the mucous membranes and the teguments, *C.* spp. may be saprophytic; before they can be regarded as pathogenic, the species isolated must be considered, together with the abundance of fungal elements present.

The exclusive or predominating presence of a large number of *C.* spp. in the lesions is usually of pathological significance, whatever the part of the body in which they are found or the particular species isolated. The presence of *C.* spp. in sputum should be treated with a certain reserve.

The presence of *C. albicans* in cutaneous lesions is definitely pathological.

In the 2nd part details are given of the pathological manifestations noted in 175 cases of infection by *C. albicans*, *C. tropicalis*, and *C. pseudo-tropicalis*, and of the etiological and pathogenic conditions governing infections by *Candida*.

Of 342 strains of *C.* isolated at the Institut Pasteur, Paris, during the last 4 years, *C. albicans* was the species most commonly present in pathological material (78·7%), followed by *C. tropicalis* (7·6%), a *C.* of the group *krusei* (7·6%), *C. pseudo-tropicalis* (4·4%), and *C. guillermondi* (1·7%). The pathogenic role of *C. albicans* was evident in 156 of the 269 cases in which this species was isolated. Antibacterial antibiotics favour the development of *C.* on the mucous membranes and are responsible for the frequency and the gravity of the pathological manifestations.

94. PECK (S. M.), BERGAMIN (ROSE), KELLEC (LOUISE), & REIN (C. R.). **The sero-diagnosis of moniliasis—its value and limitation.**—*J. invest. Derm.*, **25**, 5, pp. 301–308, 1955. [21 refs.]

At Mount Sinai Hospital, New York, and New York University Post-Graduate Medical School, in order to evaluate the specificity of the monilia complement fixation test (MCFT) the serum of 793 patients suffering from a variety of dermatoses was examined by methods which are described. The incidence of positive reaction was 13·5%, while of 48 patients with clinical moniliasis 36 (75%) gave positive results. In a series of 186 patients, long term treatment with tetracycline did not affect the MCFT results but there was a marked correlation between these and the development of ano-genital pruritis, 21 of 27 positive reactors developing pruritis shortly after the start of tetracycline therapy.

95. VOGEL (R. A.). **Role of lipid in hemagglutination by Candida albicans and Saccharomyces cerevisiae.**—*Proc. Soc. exp. Biol., N.Y.*, **94**, 2, pp. 279–283, 1957.

It is reported from the Veterans Administration Hospital and the Emory University School of Medicine, Atlanta, Georgia, that the erythrocyte-sensitizing antigen in saline extracts from *C. albicans* and *S. cerevisiae* [**2**, No. 2376] was inactivated by

exhaustive de-proteinization with chloroform-n-butyl alcohol mixtures, Seitz filtration, albumin-blocking, and treatment with lipase. The antigen from *S. cerevisiae* was more heat-labile and sooner inactivated by lipase than that from *C. albicans*.

96. Mankowski (Z. T.), Yamashita (M.), & Diller (Irene C.). **Effect of Candida guilliermondi polysaccharide on transplantable Mouse sarcoma 37.**—*Proc. Soc. exp. Biol., N.Y.*, **96**, 1, pp. 79–80, 1957.

It is reported in this joint contribution from the Institute for Cancer Research and the Lankenau Hospital Research Institute, Philadelphia, that complete regression of subcutaneously implanted sarcoma 37 occurred in 62% of a group of 100 Swiss mice injected intraperitoneally with a polysaccharide derived from glucose-peptone cultures of *C. guilliermondi* (2 doses of 0·4 mg. each at 2-day intervals). Similar treatment of another group of 100 with Fleishman's zymosan gave the same result in 67%. Spontaneous regression of the tumours took place in 60% of a 3rd group of untreated controls. No toxic symptoms developed as a sequel to injection with either of the polysaccharides, nor was any haemorrhagic reaction observed in the tumour tissues. Neither substance exerted any effect on the ascites form of sarcoma 37 *in vivo*.

97. Winner (H. I.). **Immunity in experimental moniliasis.**—*J. Path. Bact.*, **71**, pp. 234–237, 1956. [*V.B.*, **26**, No. 2826.]

Experimental studies showed rabbits to possess a considerable degree of natural immunity to *Candida albicans* but provided the dose exceeded a certain min. value the survival time after intravenous inoculation was independent of the dose in both immunized and non-immunized animals.

98. Van Uden (N.) & Assis-Lopes (L.). **Fermentation of raffinose in the absence of invertase by Saccharomyces italicus Castelli var. melibiosi nov. var.**—*Portug. Acta biol.*, Sér. A, **4**, 4, pp. 323–327, 1957.

S. italicus var. *melibiosi*, described from the Departmento de Microbiologie do Instituto Botanico, Lisbon, Portugal, differs from the type variety in its ability to ferment and assimilate melibiose and the galactose part of raffinose. All the strains have come from the digestive tracts of warm-blooded animals, 9 from man and 1 from the horse.

99. Van Uden (N.) & Carmo-Sousa (L. do). **Candida slooffii nov. sp., a thermophilic and vitamin deficient yeast from the equine intestinal tract.**—*Portug. Acta biol.*, Ser. A., **4**, 4, pp. 7–17, 3 fig., 1956. [Received 1957.]

Six isolates were made of *C. slooffii* Van Uden & Carmo-Sousa from the caecal content of 6 horses at the Departamento de Microbiologia, Instituto Botanico, Lisbon. The yeast has oval, single, or paired cells, mostly in groups, 4·2 to 7·2 × 6·9 μ, grows only at 28–44° C., and ferments and assimilates only glucose. All strains are deficient for biotin, calcium pantothenate, inositol, niacin, pyridoxine, and thiamin. Growth occurs in the absence of folic acid, *p*-aminobenzoic acid, or riboflavin. A well-developed pseudomycelium with branched verticels of blastospores forms in culture. The organism appears to be closely related to *Torulopsis glabrata*, *T. pintolopseii*, and *C. bovina*.

100. Kapica (L.) & Blank (F.). **Growth of Candida albicans on keratin as sole source of nitrogen.**—*Dermatologica, Basel*, **115**, 2, pp. 81–105, 2 fig., 2 graphs, 1957. [German and French summaries.]

At the Dept of Bacteriology and Immunology, McGill University, Montreal, Canada, a strain of *C. albicans* isolated from infected nails grew on a medium con-

taining either keratin (0·4%), glucose, and mineral salts or the first 2 alone. Glucose is essential for the initiation of growth: of 3 concentrations tested 2% proved superior to 4 or 8%.

The appearance of nitrogenous breakdown products of keratin in culture media was followed for 4 months qualitatively by ninhydrin tests and paper chromatography and quantitatively by determination of total and *a*-amino N. The first amino acids were observed in the culture liquid 40 days after inoculation. Of the 14 identified, alanine, aspartic and glutamic acids, glycine, leucine, serine, threonine, and valine were consistently present, the others (in order of frequency) being histidine, cystine, methionine, lysine, and tyrosine. During the course of the experiment the total N increased and was found to contain only a small proportion of free amino acids.

The capacity of *C. albicans* to digest keratin is considered to be proved by the foregoing data, while its pathogenicity for keratinized tissues is strongly indicated. Moreover, the relationship between the sugar metabolism and keratinolytic activities of the fungus corroborates and explains many clinical observations connecting cutaneous moniliasis with the sugar content of the keratinized tissues.

101. Young (G.) & Silverman (W.). **Persistence of Candida albicans in peritoneal cavity and kidney of the Mouse.**—*Bact. Proc. U.S.A.*, p. 86, 1956.

In experimental moniliasis (*C. albicans*) of mice many of the 'survivors' of short term experiments may die within a month or two with the fungus still recoverable from the kidneys. At the Dept of Biology, Boston University, 18 such 'survivors' were killed 3–6 months after intraperitoneal inoculation, and cultures made from the peritoneal surface (1 positive) and the kidneys (8 positive). Of 14 survivors inoculated 6 weeks previously all gave positive kidney cultures and 4 positive peritoneal cultures: there were no open lesions in the kidneys. In another experiment the persistence of the fungus after i/p inoculation was followed, at 2-day intervals, by injecting 0·5 ml. saline and then withdrawing a little fluid for culture. With a virulent strain (killing 16 of 20 in 30 days) the washings from 3 of the 4 survivors were positive on the 30th day, while with a less virulent strain (killing 7 of 20 in 30 days) they were negative after the 4th day. In all mice which died the washings were positive up to the time of death.

102. McCarty (R. T.). **Moniliasis as a systemic infection in Cattle. Field case reports.**—*Vet. Med.*, **51**, 12, pp. 562–564, 1956. [*V.B.*, **27**, No. 2343.]

Candida albicans was isolated at autopsy from the lungs (and other organs) of 3 cattle in California which had shown severe respiratory symptoms.

103. Friedman (Lorraine), Smith (C. E.), Roessler (W. G.), & Berman (R. J.). **The virulence and infectivity of twenty-seven strains of Coccidioides immitis.**—*Amer. J. Hyg.*, **64**, 2, pp. 198–210, 5 fig., 2 pl., 1956.

The virulence for mice of 27 strains of *C. immitis*, estimated at Tulane University, New Orleans, by the intraperitoneal inoculation of 100 particles grown on solid media, varied over a wide range, one strain killing all of 25 mice within 30 days while another killed none within 90 days. Nearly all of the strains were highly infective, though many were of low virulence. In general the most virulent strains were those which produced typical spores when cultured on agar media. Virulence for mice was correlated neither with the severity of disease in man, nor with the length of time which had elapsed since primary isolation.

104. Bieberdorf (F. W.) & Chambliss (K. W.). **A positive control for coccidioidin complement fixation.**—*Publ. Hlth. Rep., Wash.*, **70**, 8, pp. 771–774, 1955.

The authors report from the Southwest Foundation for Research and Education,

Southwest Research Institute, San Antonio, Texas, that antiserum containing a high titre of antibodies to *C. immitis* may be obtained from young female rabbits 1 week after intraperitoneal inoculation. This, when freeze-dried and sealed under vacuum, keeps indefinitely at room temperature, and would be useful as a positive control serum of known titre in laboratories having no fresh positive human antiserum at their disposal.

105. Converse (J. L.). **Effect of physico-chemical environment on spherulation of Coccidioides immitis in a chemically defined medium.**—*J. Bact.*, **72**, 6, pp. 784–792, 12 fig., 1956. **The effect of surface active agents on endosporulation of Coccidioides immitis in a chemically defined medium.** *Ibid.*, **74**, 1, pp. 106–107, 4 fig., 1957.

In studies at Fort Detrick, Frederick, Maryland [**2**, No. 1812], the author obtained optimum spherulation of *C. immitis* in the 7th–14th day of growth in freely sporulating cultures in a 'basal spherule medium' (0·022 M glucose, 0·003 M KH_2PO_4, 0·003 M K_2HPO_4, 0·0016 M $MgSO_4$, $1{\cdot}24\times10^{-5}$ M $ZnSO_4$, $2{\cdot}4\times10^{-4}$ M NaCl, 2×10^{-5} M $CaCl_2$, $1{\cdot}4\times10^{-4}$ M $NaHCO_3$, and distilled water) of initial pH 6–8, incubated at 37° C. in complete darkness for 72 hr. under reduced aeration.

Using the same medium with 0·05 or 1% Tamol 'N' (an anionic surface active agent produced by the Rohm & Haas Co., Philadelphia), he maintained the parasitic cycle (alternation of spherules and endospores) through 3 transfers at 72 hr. intervals. Tamol N promoted spherulation at 0·005–1% and dispersion of endospores at 0·01–1% and caused the rupture of the spherules.

106. Friedman (K.) & Pappagianis (D.). **The inhibitory effect of peptone on the sporulation of three strains of Coccidioides immitis.**—*Amer. Rev. Tuberc.*, **74**, 1, pp. 147–148, 2 fig., 1956.

At the Naval Biological Laboratory and the Dept of Bacteriology, University of California, the addition of 1% Bacto peptone to an agar medium containing 2% glucose and 1% yeast extract inhibited sporulation in 3 out of 4 strains of *C. immitis*.

107. Huppert (M.). **A technique for the safe handling of Coccidioides immitis cultures.**—*J. Lab. clin. Med.*, **50**, 1, pp. 158–164, 1 fig., 1957. [*T.D.B.*, **54**, p. 1359.]

The risk of infection by *C. immitis* when sub-culturing may be eliminated by the use of 60 ml. screw-capped culture bottles, the caps of which have a circular opening closed by a rubber diaphragm. The rubber is pierced by a hollow needle, loosely wrapped in an alcohol-soaked cotton wool, and 5 ml. of normal saline introduced by means of an attached syringe. The tube is then shaken vigorously, and the needle used to withdraw a sample of emulsified cultures. During transfer the needle is carefully covered by the cotton wool.

It is convenient to pierce the diaphragm with the sterilized needle, its base plugged with cotton wool, at the time of sowing the culture. This provides some aeration and facilitates subsequent operations. After injection of 0·5 ml. of 8% formaldehyde the culture is safe for direct microscopical examination after 24 hr. at 37° C.

108. Russell (R. W. Ross) & Dean (D.). **Medical memoranda : Torula meningitis in Malaya.**—*Brit. med. J.*, 5045, p. 627, 1957.

This note, from the British Military Hospital, Kanunting, Taiping, Malaya, records a fatal case of *Cryptococcus neoformans* infection in a 44-year-old Chinaman.

109. Webb (W. R.) & Biggs (R. H.). **Pulmonary cryptococcosis.**—*Dis. Chest*, **30**, 6, pp. 659–698, 5 fig., 1956. [Spanish, French, and German summaries.]

Following a general survey of cryptococcosis (*Cryptococcus neoformans*) details are given of a case at the Mississippi State Sanatorium, Jackson, of pulmonary infection in a 20-year-old white student. Resection of the pulmonary cryptoccal cyst was successful. (A second case (in a 26-year-old man) similarly treated is noted in an addendum.)

110. Brier (R. L.), Mopper (C.), & Stone (J.). **Cutaneous cryptococcosis. Presentation of a case and a review of previously reported cases.**—*Arch. Derm. Syph., Chicago*, **75**, 2, pp. 262–263, 1 fig., 1957.

From Wayne University College of Medicine, Detroit, Michigan, a case is reported of a 60-year-old white man having a 'boil' below the left ear, the infection spreading as crusted and ulcerative lesions all round. *Cryptococcus neoformans* was cultured from biopsy material. Treatment with chloroquine 250 mg. 3 times a day orally and chloramphenicol cream locally was associated with gradual clearing of the lesions.

111. Tolosa (A.), Spina-Franca (A.), & Lacaz (C. da S.). **Criptococose do sistema nervoso central. Registro de um caso.** [Cryptococcosis of central nervous system. Record of one case.]—*Arch. Neuropsiq., S. Paulo*, **14**, 2, pp. 171–178, 1956.

The case here reported from the Clínica Neurológical of São Paulo is of a fatal infection by *Cryptococcus neoformans* in a 29-year-old white man in Brazil. Sulphamide therapy failed.

112. Herrera (J. M.), Briceno (C. E.), & Souza (O. E.). **Blastomicosis generalizada por Cryptococcus neoformans ; primer caso mortal estudiado en Panama.** [Generalized torulosis caused by *Cryptococcus neoformans*; first fatal case studied in Panama.]—*Arch. méd. Panameñ.*, **5**, 2, pp. 107–125, 15 fig., 1956. [English, French, and German summaries.]

This is a detailed account from the Hospital Santo Tornás, Panama, of a fatal case of generalized torulosis (*C. neoformans*) in a 43-year-old man.

113. Bubb (Hazel). **Cryptococcus neoformans infection in bone.**—*S. Afr. med. J.*, **29**, 53, pp. 1259–1261, 1955.

From the Port Elizabeth Branch of the South African Institute for Medical Research is reported a case of torulosis (*C. neoformans*) affecting the right femur in a 9-year-old native girl. Drainage of the bone, with insertion of a BIPP plug, effected a rapid and complete cure.

114. Di Menna (Margaret E.). **A search for Cryptococcus neoformans in milk.**—*Leeuwenhoek ned. Tijd.*, **22**, 4, pp. 331–336, 1956.

At the Dept of Microbiology, University of Otago, Dunedin, New Zealand, *C. neoformans* was not found in 22 samples of pooled raw milk examined but there were 2 isolates of *C. albidus* among the 418 yeast cultures (representing 31 spp.) identified. No lactose fermenting yeasts were found.

115. Drouhet (E.). **Quelques aspects biologiques et mycologiques de l'histoplasmose.** [Some biological and mycological aspects of histoplasmosis.]—*Arch. Biol. méd.*, **33**, 4, pp. P. et B. 1299 (B. 439)–P. et B. 1321 (B. 461), 1 col. pl., 3 fig., 2 diag., 1957. [English, German, and Spanish summaries. 79 refs.]

After pointing out that, so far, no indigenous case of histoplasmosis (*Histoplasma capsulatum*) has been confirmed in France, the author states that biological

diagnosis of the disease has been established or confirmed at the Institut Pasteur, Paris, in cases observed in France and French Africa.

A detailed review of all aspects of histoplasmosis is then given, including observations by the author, which have already been noticed in this *Review* [cf. **2**, No. 1854].

[Another version of this paper appears in *Sem. Hôp. Paris*, **33**, 13/2, pp. 789/SP. 89–793/SP.93, 1 col. pl., 1 diag., 1957.]

116. Cremer (G.). **Histoplasmose, in het bijzonder de gelokaliseerde vorm.** [Histoplasmosis, especially the localized form.]—*Ned. Tijdschr. Geneesk.*, **101**, 33, pp. 1540–1545, 3 fig., 1957. [English summary.]

From the Dermatological Clinic of the University of Amsterdam the author reports in detail a case of histoplasmosis (of which there is only 1 previous record in Holland [**2**, No. 2074]) in a 36-year-old missionary. Infection was contracted in the vicinity of Dakar, N. Africa, and sections from the localized ulcers on the skin of the right knee contained numerous elements characteristic of *Histoplasma duboisii* [**2**, No. 2445], the literature on which is discussed. However, cultures on Sabouraud's and Littman's agars at 25° C. gave rise exclusively to the typical *H. capsulatum* form.

117. Brosius (W. L.). **Histoplasmosis in pulmonary coin lesions.**—*Harper Hosp. Bull.*, **14**, 5, pp. 179–185, 1 fig., 1956.

Examination by periodic acid-Schiff staining of old preserved material from 21 pulmonary coin lesions revealed *Histoplasma capsulatum* in 17 (abundant in 6). The fungus was also present in each of 19 fresh coin lesions from asymptomatic cases discovered at routine X-ray examination, but it could not be cultured on the [unspecified] media employed. Acid-fast bacilli were not present. Over half of these cases proved positive to histoplasmin and negative to tuberculin.

118. Collins (D. C.). **Histoplasmosis and the colo-proctologist.**—*Amer. J. Proctology*, **7**, 5, pp. 379–391, 7 fig., 1956.

From the College of Medical Evangelists, S. California, the author reports a 10-years' study of material surgically removed from the colonic tissues in 1,205 consecutive unselected cases, received under a variety of diagnoses. Of these specimens, 13·6% were positive for histoplasmosis (*Histoplasma capsulatum*). Included in the study were 219 examples of 'non-specific regional enteritis of the small intestine' and 179 of 'chronic ulcerative colitis', of which 31·5 and 35·75%, respectively, were positive for histoplasmosis. In the light of these findings colo-proctologists should be hesitant with regard to surgical intervention in the case of lesions which may prove to be localized manifestations of histoplasmosis.

119. Hill (Grace B.) & Campbell (Charlotte C.). **A further evaluation of Histoplasmin and yeast phase antigen of Histoplasma capsulatum in the complement fixation test.**—*J. lab. clin. med.*, **48**, 2, pp. 255–263, 1956.

Histoplasmin and a whole yeast phase (WYP) antigenic preparation of *H. capsulatum* were employed simultaneously in determining the level of complement fixation antibody in 1,074 sera submitted for routine serologic tests for histoplasmosis, blastomycosis [*Blastomyces dermatitidis*], and coccidioidomycosis [*Coccidioidomyces immitis*]. Evaluation of the data (which are tabulated) revealed that of 146 sera which reacted to CF levels of 1:32 or above with 1 or both antigens, 57 reacted to significantly higher titre with WYP antigen, 41 to significantly higher titre with histoplasmin, while only 48 reacted to essentially equal titres with both antigens. It was concluded that both types of antigen should be employed in all suspected cases of histoplasmosis.

120. Zeidberg (L. D.), Gass (R. S.), & Hutcheson (R. H.). **The placental transmission of histoplasmosis complement-fixing antibodies.**—*J. Dis. Child.*, **94**, 2, pp. 179–184, 1957.

From the Vanderbilt University School of Medicine, Nashville, Tennessee, the first evidence of placental transmission of complement-fixing antibodies for *Histoplasma capsulatum*, in 2 infants of a 31-year-old woman with the chronic cavitary form of the disease, is presented and its implications are discussed.

121. Edwards (Phyllis Q.) & Palmer (Carroll E.). **Prevalence of sensitivity to coccidioidin, with special reference to specific and nonspecific reactions to coccidioidin and to histoplasmin.**—*Dis. Chest*, **31**, 1, pp. 35–60, 5 graphs, 2 maps, 1957.

From the Division of Special Health Services, Public Health Service, Washington, the authors report a study, covering the period 1945–51, in which 110,000 young adults from nearly all parts of the U.S.A. were tested simultaneously with coccidioidin and histoplasmin. The results with persons classified as lifetime residents in a single county served as a basis for mapping the geographic distribution of sensitivity to the antigens. Of naval recruits from 5 north-western States just over 1% reacted to either coccidioidin or histoplasmin. In those from 7 east-central States, a region of endemic histoplasmosis, 60% reacted to histoplasmin, 1·5% to coccidioidin, and 1·2% to both, while in those from 4 south-western States, where coccidioidomycosis is endemic, 11% reacted to coccidioidin, 8% to histoplasmin, and a little over 4% to both.

The criterion for a positive (specific) reaction varies with the prevalence of both specific and non-specific sensitivity, so that the conventional 5 mm. criterion can lead to over-estimates of specific reactions in some areas and under-estimates in others. Measurements of the sizes of reactions, with detailed study of the frequency distributions of the various sizes, may provide much-needed information on the complex nature of specific and non-specific sensitivity.

122. Bouroncle Carreon (A.). **Sensibilidad a la histoplasmina en algunas localidades del Perú.** [Sensitivity to histoplasmin in various localities in Peru.]—*An. Fac. méd. Lima*, **38**, 4, pp. 1099–1112, 1955.

From histoplasmin-skin testing in 4 Peruvian towns, the incidence of positive reactors in Iquilos and Callao was estimated at 37 and 24%, respectively. Histoplasmosis was concluded to be endemic in the Selvas region.

123. Tenret (J.). **Étude sur la réaction a l'histoplasmine au Ruanda-Urundi.** [Study of the histoplasmin reaction in Ruanda-Urundi.]—*Ann. Soc. belge Méd. trop.*, **36**, 6, pp. 859–874, 1956.

Positive reactions were given by 1·71, 4·94, and 21·52% of those tested in 3 communities.

124. Silva (M. E.). **Isolamento de Histoplasma capsulatum do solo, em zona endémica de calazar na Bahia, Brazil.** [Isolation of *Histoplasma capsulatum* from soil in an endemic area of Kala-azar, in Bahia-Brazil.]—*Bol. fund. Gonçalo Moniz, Bahia-Brazil*, **10**, pp. 8–13, 1956. [English summary.]

From the Public Health Institute of Salvador it is reported that mycological studies of 90 soil samples gathered in the city of Jacobina yielded 1 isolate of *H. capsulatum*.

125. Kalra (S. L.), Borcar (M. D. S.), & Rebello (E. R. F.). **Histoplasmosis, isolation of the fungus from soil and Man.**—*Indian J. med. Sci.*, **11**, 7, pp. 496–498, 1957.

Two strains of *Histoplasma* were isolated at Poona, one from soil at the entrance to

a rodent burrow in 1954 and the other from the sputum of a 37-year-old male who had contracted infection during military service in India [cf. **2**, No. 1558] and showed roentgenological evidence of pulmonary involvement. The strains produced both small and large spores, did not grow in the yeast form on glucose blood agar at 37° C., and were non-pathogenic to mice and guinea-pigs by the intraperitoneal route. They were identified by M. J. Thirumalachar as *H. duboisii* [**3**, No. 116].

126. De Bellard (E. P.), Briceno Iragorry (L.), Pardo (I.), Requena (A.), & Poliak (L.). **La histoplasmosis en Venezuela. Observaciones.** [Histoplasmosis in Venezuela. Observations.]—*Gac. méd. Carácas*, **63**, 3, 4, & 5, pp. 191–208, 14 fig., 1956. [English and French summaries.]

A description is given of a case of pulmonary histoplasmosis (*Histoplasma capsulatum*) in a man who acquired the infection during the exploration of a cave [cf. **2**, No. 2456] at la Vieja, Ocumare del Tuy, Venezuela.

It is stated that an epidemic of histoplasmosis occurred in Barquisimeto in 1952 following the exploration of a cave in Sarare by a group of students. Histoplasmin testing carried out by Dr. Campins on 1,836 inhabitants of 2 small towns near the infected cave showed a strong positive reaction in 38·5% of those tested. [This and other similar cases in Venezuela are reviewed by Nicot (Jacqueline), *Rev. Mycol., Paris*, **22**, 2, pp. 229–231, 1957.]

127. González Ochoa (A.) & Navarrete (F.). **Susceptibilidad comparada entre el hamster y el ratón a la infección por H. capsulatum.** [Comparative susceptibility of the Hamster and the Mouse to infection by *Histoplasma capsulatum*.]—*Rev. Inst. Salubr. Enferm. trop., Méx.*, **16**, 3, pp. 9–15, 1956. [English summary.]

The results obtained at the Instituto de Salubridad y Enfermedades Tropicales, Mexico, from experimental inoculation with 2 strains of *H. capsulatum* of different virulence suggest that hamsters are much more susceptible to infection than mice and that the testicular route can be used.

128. Singh (S.). **Equine cryptococcosis (epizootic lymphangitis).**—*Indian vet. J.*, **32**, pp. 260–270, 1956. [*V.B.*, **26**, No. 2229.]

Since 1948, at the Remount Depôt, Saharanpur, 176 of 188 cases of infection of horses by *Histoplasma farciminosum* have shown involvement of the eyes. Full clinical details are given of this condition which was cured in 80% of the cases by surgical removal of the lesion followed by 1 or more series of 5 intravenous injections at 48 hr. intervals of Lugol's iodine (6, 8, 10, 12, 12 oz., respectively).

129. Austwick (P. K. C.). **Insects and the spread of fungal disease.**—In Horton-Smith (C.) (Edit.), Biological aspects of the transmission of disease, pp. 73–79, Oliver and Boyd, 1957. 21*s.*

Reference is made in passing to the work of Voronov [**1**, No. 2257] indicating that equine epizootic lymphangitis (*Histoplasma farciminosum*) is transmitted by pasture flies [species unknown] which feed at the wounds caused by gad-flies. This is cited as the only known example of an insect-transmitted animal mycosis.

130. Kozin (S. L.). К патогенности грибка **Fusarium redolens WR.** [The pathogenicity of *Fusarium redolens* WR.]—*Vest. Venerol. Dermatol. S.S.S.R.*, **30**, 1, pp. 28–31, 4 fig., 1956.

The author reports the isolation from a purulent ulcer of 4 years' standing on the left knee of a 43-year-old man of a fungus producing 1-3-septate macroconidia 5–7 × 19–25 μ which was identified as *F. redolens*. Experimentally infected rabbits and guinea pigs developed abscesses from which the fungus was re-isolated.

131. Bauer (H.), Flanagan (J. F.), & Sheldon (W. H.). **The effects of metabolic alterations on experimental Rhizopus oryzae (mucormycosis) infection.**—*Yale J. Biol. Med.*, **29**, 1, pp. 23–32, 1956.

At the Dept of Pathology and School of Medicine, Emory University, Georgia, rabbits inoculated with *R. oryzae* developed nasal, pulmonary, and cerebral lesions even when inoculation preceded acute alloxan diabetes by several days. The nasal and pulmonary lesions which developed in rabbits rendered hyperglycaemic by infusion of glucose were more frequent and active than those in metabolically normal animals, but less aggressive than lesions developing in the presence of alloxan diabetes, suggesting an intermediate stage of host susceptibility. In both alloxan diabetes and infusion hyperglycaemia the polymorphonuclear leukocytes showed degenerative changes, from which it was concluded that altered leukocytic function may be an important factor in the pathogenesis of mucormycosis.

132. Elder (T. D.) & Baker (R. D.). **Pulmonary mucormycosis in Rabbits with alloxan diabetes. Increased invasiveness of fungus during acute toxic phase of diabetes.**—*Arch. Path.*, **61**, 2, pp. 159–168, 7 fig., 1956.

At the Dept of Pathology, Duke University School of Medicine, and the Veterans Administration Hospital, Durham, North Carolina, alloxan-diabetic rabbits in the acute phase of the disease were killed in 1–3 days by intratracheal inoculation of spore suspensions of *Rhizopus arrhizus*, while those in the chronic phase (11th day of disease) developed only mild pneumonia and giant cell reaction, with no hyphal proliferation. The reaction in non-diabetic controls resembled that in animals inoculated in the chronic phase.

The hyphal proliferation and bronchopulmonary lesions of the acute toxic phase of alloxan diabetes in the rabbit closely resemble the fulminating pulmonary lesions of human mucormycosis, which develop in unregulated and ketolic patients with diabetes mellitus.

133. Baker (R. D.). **Mucormycosis—a new disease?**—*J. Amer. med. Ass.*, **163**, 10, pp. 805–808, 5 fig., 1957.

The author comments on the association of mucormycosis in man with other diseases (e.g. diabetes, leukaemia) and with cortisone treatment, anti-leukaemic agents and antibiotics, and remarks on the affinity of the causative fungi for arteries, which they can penetrate, going on to invade the veins and lymphatics.

He describes the cerebral, pulmonary, intestinal, and disseminated forms of the disease. Thirteen fatal cases of cerebral mucormycosis reported since 1943 are cited.

134. Davis (C. L.), Anderson (W. A.), & McCrory (B. R.). **Mucormycosis in food-producing animals : a report of twelve cases.**—*J. Amer. vet. med. Ass.*, **126**, 937, pp. 261–267, 12 fig., 1955.

From the Animal Disease Research Laboratory, Denver, Colorado, are reported 1 porcine and 11 bovine cases of mucormycosis, encountered in the routine screening of granulomas of various causation from slaughtered meat animals. Of the bovine cases (animals ranging from 6 months to 5 years) 5 had been submitted for suspected tuberculosis, 3 for carcinomatosis, and 1 each for actinobacillosis, coccidioidomycosis, and granuloma. In 3 of these cases the mesenteric lymph nodes alone were affected, while in the remaining 8 infection was restricted, with 1 exception, to the thoracic region. In the pig, a barrow [castrated hog] of 6 months, the cervical and bronchial lymph nodes and the lungs were affected. This distribution of the lesions suggested that the pathogen enters by either the respiratory or the digestive tract. In every case coarse branching aseptate hyphae suggestive of *Mucor* were present in histological sections of closed lesions: culture was attempted

only in 4 cases and was successful in 1, an 18-month-old Hereford steer, in which the fungus, identified by C. W. Emmons as *Lichtheimia* [*Absidia*] *corymbifera*, was grown on Sabouraud's agar from a single, closed, oval, mesenteric lymph node, forming a lobulated mass 12 cm. diam., greenish-yellow and caseo-calcareous at the cut surface. The granuloma was separated from the unaffected portion of the node by a rather thin capsule. The fungus was lethal to mice by the intravenous route, producing microscopical renal lesions.

135. Haensch (R.). **Cephalosporiose, ein Beitrag zur Klinik der seltenen Mykosen.** [Cephalosporiosis, a contribution to the clinical aspect of rare mycoses.]—*Z. Haut- u. Geschlechtskrankh.*, **23**, 5, pp. 137–141, 3 fig., 1957.

A very unusual, fatal case of cephalosporiosis (*Cephalosporium acremonium*), which developed in a 28-year-old woman suffering from pleurisy, is reported from the Ferdinand Sauerbruch Hospital, Wuppertal-Elberfeld, Germany [cf. **1**, No. 1550]. At the onset the skin infection resembled erythema induratum, but subsequently phlegmonous abscesses were formed and ultimately the deeply penetrating ulcerations exposed the musculature and bones. Autopsy revealed small cavernous involvement of both lungs and of the liver and spleen.

136. Lacaz (C. da Silva). **South American blastomycosis.**—*An. Fac. Med. S. Paulo*, **39**, 120 pp., 1 col. pl., 44 fig., 1956. [Received Oct. 1957. 31-page bibliogr.]

Most of the literature on South American blastomycosis (*Paracoccidioides brasiliensis*) being in Portuguese, this comprehensive, authoritative, well-illustrated account of the disease has been prepared in English to make the data on this mycosis more generally accessible.

The 9 chapters are devoted to history, geographical distribution, mycology, source of infection, anatomo-clinical forms (including Lobo's disease (keloid blastomycosis) caused by *P. loboi* [**2**, No. 2060, 1995]), differential diagnosis, laboratory diagnosis, pathology, and treatment respectively.

The long bibliography cites a number of papers which have not been noted in this *Review*.

137. Seijas (O.). **Contribución al estudio de la paracoccidioidomicosis osea.** [Contribution to the study of osseous paracoccidioidomycosis.]—*Gac. méd. Carácas*, **63**, 3, 4, & 5, pp. 225–242, 11 fig., 1956.

From Barquisimeto the author describes a case of South American blastomycosis [*Paracoccidioides brasiliensis*] associated with a lesion of the left humerus. The shoulder was swollen and very painful but the glands in the armpit and neck were not affected. The apparent primary localization of the disease in the bone is claimed as the first in Venezuela.

138. Maffei (W. E.) & Hungria (J. S.). **Tumor blastomicótico do femur.** [Blastomycotic tumour of the femur.]—*Arq. Hosp. Santa Casa, S. Paulo*, **2**, 1, pp. 41–54, 4 fig., 1956. [*T.D.B.*, **54**, p. 614.]

A 15-year-old male Brazilian agricultural labourer reported a painful disorder of the hip joint which restricted movement and caused him to limp. X-ray examination revealed an irregularly outlined focus of osteolysis with well-defined margins in the neck of the femur. There was no reactive periostitis and the articulation of the hip joint was not involved. Pus obtained by puncture of the swelling appeared to be sterile and a presumptive diagnosis of osteolytic tumour was made. Tissue removed at surgical treatment, however, showed a chronic granulomatous inflammatory reaction with scattered multinucleate giant cells containing fungal

spherules, consistent with the granuloma of Lutz's disease [*Paracoccidioides brasiliensis*]. A search for the primary focus of the disease revealed chronic, non-active lesions in a cervical lymph node and in the tonsil of the same side. Sulphadiazine treatment (0·5 g. every 3 hr.) had to be suspended after 1 month because of a significant fall in the granulocyte count. The combination of surgical and sulphonamide treatments brought marked clinical and radiological improvement, but the patient was lost sight of before complete cure was achieved. This case is remarkable in that solitary lesions of the skeletal system, not associated with disseminated infection, are extremely rare in this disease.

139. Lacaz (C. da S.) & Bolognani Filho (H.). **Conservação de culturas do Paracoccidiodes brasiliensis em agar-sabouraud, protegidas com convaselina líquida.** [Conservation of cultures of *Paracoccidioides brasiliensis* on Sabouraud's agar under liquid paraffin.]—*Hospital, Rio de J.*, **49**, 3, pp. 363–366, 1956.

Of 20 isolates of *P. brasiliensis* stored under liquid paraffin for 10–12 months, 14 were still viable.

140. Hounie (P.) & Artagaveytia-Allende (R. C.). **Encuesta sobre la sensibilidad al agente de la blastomicosis sudamericana.** [Inquiry regarding sensitivity to the agent of South American blastomycosis.]—*An. Fac. Méd. Montevideo*, **42**, 1–2, pp. 27–32, 1957. [English summary.]

Paracoccidioidin from a new strain of *Paracoccidioides brasiliensis* was tested (at 10%) on 30 normal persons from the city of Montevideo, Uruguay [cf. **2**, No. 714], with negative results. A positive reaction was elicited from 5 of 12 healthy charcoal-workers living on the wooded mountain slopes of the River Negro, 3 of whom also responded to the antigen at 1%. They were negative to 1% histoplasmin. Tests with 10% paracoccidioidin on 12 normal persons (also charcoal-workers) in the city of Mercedes, near the River Negro, yielded positive results in 3, while 1 reacted strongly to 1% as well.

141. Ciferri (R.), Carneiro (L. S.), Campos (S.), & Azevedo (P. C. de). **Advance in the knowledge of the fungus of Jorge Lobo's disease.**—*J. trop. Med.* (*Hyg.*), **59**, 9, pp. 214–215, 1956.

From a comparison of *Delacroixia* (Entomophthorales) with *Paracoccidioides*, it is concluded that both, together with the genus *Loboa* [**2**, No. 2056], should be assigned to the Paracoccidioidaceae (Entomophthorales imperfecti).

142. Silva (D.). **Sur un nouveau cas de la mycose de Jorge Lobo.** [On a new case of Jorge Lobo's mycosis.]—*Arch. belg. Derm.*, **13**, 1, pp. 26–35, 4 fig., 1957. [Flemish and English summaries.]

A case of cheloid blastomycosis [*Paracoccidioides loboi*] in a 27-year-old agricultural labourer, bringing the number of records to 14, is presented from the Faculty of Medicine, Parà, Brazil [see above and **3**, No. 136]. Infection originated in the right leg following injury from a liane and was characterized by polymorphism and a tendency for the lesions to involve the entire tegument. Direct examination of the creamy secretion or scarified material from the verrucose excrescences revealed hyaline, spherical, double-contoured elements, but attempts at culture on various media failed.

143. Vogelsang (E. G.). **Rhinosporidium seeberi parasito del equino de Venezuela.** [*Rhinosporidium seeberi*, parasite of the Horse in Venezuela.]—*Rev. Med. vet. Carácas*, **14**, 1–4, pp. 27–30, 1955.

A record of equine rhinosporidiosis (*R. seeberi*) in Venezuela.

144. Gonzalez Benavides (J.). **La esporotricosis como enfermedad ocupacional en los trabajadores de alfarerías.** [Sporotrichosis as an occupational disease in workpeople at potteries.]—*Bol. Soc. cubana Derm. Sif.*, **13**, 3, pp. 89–102, 4 fig., 1956. [*B.H.*, **32**, p. 665.]

Referring to the high incidence of sporotrichosis [*Sporotrichum schencki*] in persons engaged in the pottery industry in Cuba, the author presents brief clinical notes on 16 cases at a works in the city of Monterrey. These were 12 adult males engaged in production and packing, 2 female clerks, and 2 school-children living on the premises.

The initial lesion was most frequently on the hand (43·75%) and in all patients the infection was localized, lymphangitic extension being present in 37·5%. All cases were positive to the sporotrichin skin test and all were clinically cured within 2 months by potassium iodide *per os* and local application of Lugol's iodine solution. Reinfection occurred in 18·75% of patients kept under observation for 1 year after clinical cure.

Abrasions and minor wounds, which are common at the potteries, presumably provide the portal of infection, and the source of the fungus is thought to be among the various packing materials.

145. Geraci (J. E.), Dry (T. J.), Ulrich (J. A.), Weed (L. A.), MacCarty (C. S.), & Sayre (C. P.). **Experiences with 2-hydroxystilbamidine in systemic sporotrichosis.**—*Arch. intern. Med.*, **96**, 4, pp. 478–489, 5 fig., 1955.

From the Mayo Clinic and Mayo Foundation, University of Minnesota, is reported a case of systemic (visceral) sporotrichosis [*Sporotrichum schencki*], with involvement of the central nervous system, in a 60-year-old man employed at a cement, tile, and clay factory. He was treated with 2-hydroxystilbamidine until the onset of an allergic reaction after 1 month, after which there followed an interval of 3 weeks before potassium iodide therapy was instituted. His death, which was attributed to renal insufficiency, occurred during therapy. Autopsy revealed that the lesions were healing.

146. Fragner (P.) & Svatek (Z.). **Sporotrichum gougeroti Matr. u nas.** [*Sporotrichum gougeroti* in Czechoslovakia.]—*Čés. Mykol.*, **9**, 3, pp. 139–143, 7 fig., 1955. [Russian and French summaries.]

Mycological details are given of an isolate of *S. gougeroti* [**2**, No. 1977], from an interdigital infection in a miner caused by *Trichophyton gypseum* var. *kaufmann-wolfii* [*T. interdigitale*], which is claimed as a new record for Czechoslovakia.

147. De Magalhães (O.). **Ensaios de micologia. Contribuïção para o conhecimento das esporotrichoses.** [Studies in mycology. Contribution to the knowledge of the sporotrichoses.]—*Mem. Inst. Osw. Cruz*, **54**, 2, pp. 393–407, 3 pl., 3 fig., 1956. [English summary.]

From Belo Horizonte, Brazil, the author describes the fungal elements detected in material obtained from an oral lesion in a farmer. Culture on Sabouraud's dextrose agar and other media gave a species of *Sporotrichum*, in all probability *S. schencki-beurmanni* [*S. schencki*]. The colonies contained both black- and reddish-pigmented zones, the former being apparently dominant.

148. De Vries (G. A.) & Kleine-Natrop (H. E.). **Sporotrichum cerebriforme nov. spec.**—*Mycopathologia*, **8**, 2, pp. 154–160, 2 fig., 1957. [German, with English summary.]

S. cerebriforme de Vries & Kleine-Natrop was isolated from a light green, fluorescent lesion on the scalp of a 16-year-old girl in north Germany. The causative role of the fungus could not be established. It is not pathogenic to rats or guinea-pigs.